

Client: V4 Distributing LLC
 Product Name: Safe Kleen
 Test Period: 6/10/10 to 6/14/10
 CBI Project ID: V4DI1001
 (Report amended 11/29/10)



Report of Analysis: Safe Kleen Standard NCP Toxicity Test

Submitted To: Mr. Todd Vitek V4 Distributing LLC 507 West Bird Avenue Nampa, ID 83686	Prepared By: Coastal Bioanalysts, Inc. 6400 Enterprise Court Gloucester, VA 23061 (804) 694-8285 www.coastalbio.com Contact: Peter F. De Lisle, Technical Director
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Summary Results:

Product-only Toxicity	Safe Kleen LC50 (ppm)			
	24-h	48-h	72-h	96-h
<i>Mysidopsis bahia</i>	336	258	N/A	N/A
<i>Menidia beryllina</i>	212	184	184	170

Oil-only Toxicity	Oil LC50 (ppm)			
	24-h	48-h	72-h	96-h
<i>Mysidopsis bahia</i>	14.8	6.2	N/A	N/A
<i>Menidia beryllina</i>	9.8	3.7	3.4	3.3

Oil + Product (10:1) Toxicity	Oil + Safe Kleen LC50 (ppm)			
	24-h	48-h	72-h	96-h
<i>Mysidopsis bahia</i>	15.4	6.5	N/A	N/A
<i>Menidia beryllina</i>	4.7	3.0	2.6	2.6

SDS Reference Standard Toxicity	SDS LC50 (ppm)			
	24-h	48-h	72-h	96-h
<i>Mysidopsis bahia</i>	16.9	16.9	N/A	N/A
<i>Menidia beryllina</i>	7.6	7.6	7.6	7.6

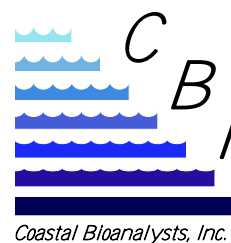
Methods:

Toxicity tests were conducted in accordance with procedures described in 40 CFR Pt 300 Appendix C Section 3.0. EPA/API standard reference fuel oil No. 2 (certificate of analysis attached) was obtained from RTC (Laramie, WY). Single-use 20 ml glass ampoules were stored at 4° C in the dark until use. Safe Kleen was provided by the client and stored in the dark at room temperature. ACS reagent-grade sodium dodecyl sulfate was obtained from Sigma. Dilution water consisted of filtered natural seawater collected from the Chesapeake Bay @ Ware River on 6/9/10. Water salinity was 20 g/kg at collection. Seawater was aerated at test temperature (25° C) prior to use.

A range finding test of Safe Kleen toxicity was conducted to determine test concentrations for definitive tests. Concentrations for toxicity testing of SDS and oil-only were based on previous data. Because toxicity in the oil+product test is generally controlled by the more abundant oil, the relatively low toxicity of the product precluded the need for a range finding test of oil+product.

Test solutions for each test were prepared using neat compound as follows (modified for product-specific concentrations from lab SOP):

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OIL ONLY TEST:

Silversides:

Volumes of reference oil added to 2 L total volume of seawater:

Final concentration (ppm)	2.0	3.5	6.2	11	20
Vol. (µl) of reference oil:	4.0	7.0	12.4	22	40

1. The volumes of oil (NOTE: Microliter quantities) indicated in the table above were added to 2 L calibrated flasks and diluted to 2 L with seawater.
2. The flasks were capped and mixed for 5 minutes at 150-160 rpm on a rotary shaker table.
3. The volume of each 2 L solution was distributed to two 1000 ml beakers (i.e. 2 replicates of the silversides).

Mysids:

Volumes of reference oil stock solution (1000 ppm) added to 2 L total volume of seawater:

Final concentration (ppm)	2.0	3.5	6.2	11	20
Vol. (ml) of oil stock sol'n:	4.0	7.0	12.4	22	40

1. Using a laboratory mixer with stainless steel blade, blended (<10,000 rpm) 550 ml of seawater and 550 µl of oil for 5 seconds. This provided a stock solution of 1000 ppm.
2. The volumes of oil stock solution (NOTE: Milliliter quantities) indicated in the table above were added to a 2 L calibrated flask and diluted to 2 L with seawater.
3. The volume of each 2 L solution was distributed to two 1000 ml beakers (i.e. 2 replicates of the mysids).

PRODUCT ONLY TEST:

Silversides:

Volumes of product added to 2 L total volume of seawater:

Final conc. (ppm)	62	104	173	288	480	800
Product (µl)	124	208	346	576	960	1600

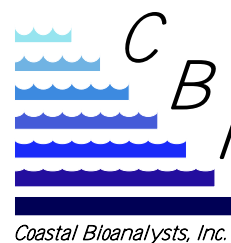
1. The volumes of product (NOTE: Microliter quantities) indicated in the table above were added to 2 L calibrated flasks and diluted to 2 L with seawater.
2. The flasks were capped and mixed for 5 minutes at 150-160 rpm on a rotary shaker table.
3. The volume of each 2 L solution was distributed to two 1000 ml beakers (i.e. 2 replicates of the silversides).

Mysids:

Volumes of product stock solution (1000 ppm) added to 2 L total volume of seawater:

Final conc. (ppm)	62	104	173	288	480	800
Vol. (ml) product stock soln:	124	208	346	576	960	1600

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1. Using a laboratory mixer with stainless steel blade, blended (<10,000 rpm) 550 ml of seawater and 550 µl of product for 5 seconds. This provided a stock solution of 1000 ppm.
2. The volumes of product stock solution (NOTE: Milliliter quantities) indicated in the table above were added to a 2 L calibrated flask and diluted to 2 L with seawater.
3. The volume of each 2 L solution was distributed to 2 1000 ml beakers (i.e. 2 replicates of the mysids).
4. For higher concentrations, several stock solutions were prepared to provide sufficient volume.

OIL+PRODUCT (10:1) TEST:

Silversides:

Volumes of reference oil and product added to 2 L total volume of seawater:

Final conc. (ppm)	1.1	2.0	3.5	6.2	11	20	35
Vol. (µl) of ref. oil:	2.2	4.0	7.0	12.4	22	40	70
Product (µl)	0.22	0.4	0.7	1.24	2.2	4.0	7.0

1. The volumes of oil and product (NOTE: Microliter quantities) indicated in the table above were added to 2 L calibrated flasks and diluted to 2 L with seawater.
2. The flasks were capped and mixed for 5 minutes at 150-160 rpm on a rotary shaker table.
3. The volume of each 2 L solution was distributed to two 1000 ml beakers (i.e. 2 replicates of the silversides).

Mysids:

Volumes of reference oil+product stock solution (1000 ppm) added to 2 L total volume of seawater:

Final conc. (ppm)	1.1	2.0	3.5	6.2	11	20	35
Vol. (ml) oil stock soln:	2.2	4.0	7.0	12.4	22	40	70

1. Using a laboratory mixer with stainless steel blade, blended (<10,000 rpm) 550 ml of seawater and 500 µl of oil **plus** 50 µl of product for 5 seconds. This provided a stock solution of 1000 ppm.
2. The volumes of oil stock solution (NOTE: Milliliter quantities) indicated in the table above were added to a 2 L calibrated flask and diluted to 2 L with seawater.
3. The volume of each 2 L solution was distributed to two 1000 ml beakers (i.e. 2 replicates of the mysids).

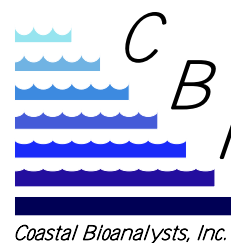
REFERENCE TOXICANT TEST (both species):

Volumes of SDS stock solution (1000 mg/l) added to 2 L total volume:

Final concentration (ppm)	3.2	5.8	10	18	32
Vol. (ml) of stock solution:	6.4	11.6	20	36	64

1. The SDS stock solution was prepared by dissolving 1000 mg of SDS in 1000 ml of seawater. (Note: Although the method recommends a 1 g/500 ml stock, poor dissolution of the SDS has been noted at this concentration. Use of a 1 g/l stock is equivalent and provides more accurate preparation of test concentrations).
2. The volumes of stock indicated in the table above were added to a 2 L calibrated flask and diluted to 2 L with seawater.

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- Each 2 L solution was distributed to two 1000 ml beakers (i.e. 2 replicates for the mysids and 2 for the silversides).

LC50s and 95% probability limits were calculated using the ToxCalc (version 5.0.23) software. This software package calculates LC50 values using the most appropriate method (e.g. Probit, Trimmed Spearman-Kärber, linear interpolation) for the specific data set. In cases where test concentrations produce effects which preclude calculation of 95% probability limits (e.g. all concentrations 100% survival or 100% mortality), the test concentrations bracketing the LC50 may be used as conservative estimates of the confidence limits (Stephan 1977).

Note: Although the name of *Mysidopsis bahia* has officially been changed to *Americamysis bahia*, the former name is referenced because of its use in the EPA method manuals and 40 CFR Pt 300.

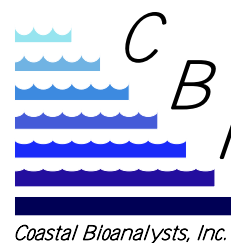
Results:

Daily % Survival (Product-only Test)		Safe Kleen Concentration (ppm)						
		Control	62	104	173	288	480	800
<i>Mysidopsis bahia</i>	24-h	100	100	100	85	95	0	0
	48-h	100	100	100	85	45	0	0
<i>Menidia beryllina</i>	24-h	100	100	100	90	0	0	0
	48-h	100	90	100	80	0	0	0
	72-h	100	90	100	80	0	0	0
	96-h	100	85	100	70	0	0	0

Daily % Survival (Oil-only Test)		Oil Concentration (ppm)					
		Control	2.0	3.5	6.2	11	20
<i>Mysidopsis bahia</i>	24-h	100	100	100	100	100	0
	48-h	100	100	95	30	20	0
<i>Menidia beryllina</i>	24-h	100	100	100	100	30	0
	48-h	100	100	60	0	0	0
	72-h	100	95	50	0	0	0
	96-h	100	95	45	0	0	0

Daily % Survival (10:1 Oil+Product Test)		Oil + SpillRemed (Marine) (10:1) Concentration (ppm)							
		Control	1.1	2.0	3.5	6.2	11	20	35
<i>Mysidopsis bahia</i>	24-h	100	100	100	100	95	95	20	0
	48-h	100	100	100	100	35	20	0	0
<i>Menidia beryllina</i>	24-h	100	100	100	100	0	0	0	0
	48-h	100	100	95	30	0	0	0	0
	72-h	100	100	80	20	0	0	0	0
	96-h	100	100	80	15	0	0	0	0

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Daily % Survival (SDS Reference Test)		SDS Concentration (ppm)					
		Control	3.2	5.8	10	18	32
<i>Mysidopsis bahia</i>	24-h	100	100	100	100	40	100
	48-h	100	100	100	100	40	0
<i>Menidia beryllina</i>	24-h	100	100	100	0	0	0
	48-h	100	100	100	0	0	0
	72-h	100	100	100	0	0	0
	96-h	100	100	100	0	0	0

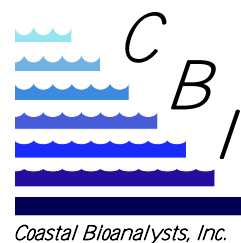
Test Set-up Information	Start Date/Time End Date/Time	Organism Source	Hatch Date	Acclimation Temp.	Acclimation Water	Test Aerated?
<i>Mysidopsis bahia</i>	6/10/10 1230 6/12/10 1240-1255	CBI Stock	6/4/10	25° C	HWM ASW 20 g/kg sal.	No
<i>Menidia beryllina</i>	6/10/10 1300 6/14/10 1310-1325	ABS	6/3/10	25° C	HWM ASW 20 g/kg sal.	SDS Test only

Water Quality (Mean/Std.Dev.): Product-only Test								
Test:	<i>Mysidopsis bahia</i>							
ppm:	LC*	62	104	173	288	480	800	
Temp. (°C)	25	25	25	25	25	25	25	
	0	0	0	0	0	0	0	
D.O. (mg/l)	6.4	6.5	6.4	6.4	6.4	6.6	6.6	
	0.8	0.7	0.8	0.8	0.8	1.1	1.0	
pH (S.U.)	7.64	7.61	7.66	7.57	7.81	7.93	8.09	
	0.13	0.14	0.13	0.02	0.19	0.31	0.42	

*LC= Lab Control

Water Quality (Mean/Std.Dev.): Product-only Test								
Test:	<i>Menidia beryllina</i>							
ppm:	LC*	62	104	173	288	480	800	
Temp. (°C)	25	25	25	25	25	25	25	
	0	0	0	0	0	0	0	
D.O. (mg/l)	5.6	5.5	5.4	5.3	6.3	6.2	6.3	
	1.0	1.0	1.0	1.1	1.4	1.4	1.4	
pH (S.U.)	7.55	7.61	7.58	7.62	7.92	8.01	8.20	
	0.15	0.16	0.14	0.25	0.16	0.19	0.16	

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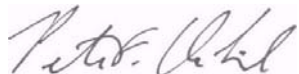
Water Quality (Mean/Std. Dev.): Oil-only Test												
Conc. ppm:	<i>Mysidopsis bahia</i>						<i>Menidia beryllina</i>					
	LC*	2.0	3.5	6.2	11	20	LC	2.0	3.5	6.2	11	20
Temp. (°C)	25	25	25	25	25	25	25	25	25	25	25	25
	0	0	0	0	0	0	0	0	0	0	0	0
D.O. (mg/l)	6.5	6.4	6.4	6.5	6.6	6.8	5.4	5.3	5.5	5.7	5.7	6.6
	0.7	0.8	0.8	0.7	0.6	0.8	1.2	1.2	1.1	1.5	1.6	1.0
pH (S.U.)	7.61	7.64	7.65	7.65	7.71	7.68	7.52	7.53	7.57	7.60	7.64	7.57
	0.12	0.09	0.08	0.10	0.11	0.09	0.18	0.14	0.10	0.12	0.11	0.09

Water Quality (Mean/Std. Dev.): Oil + Product Test																
Conc. ppm:	<i>Mysidopsis bahia</i>								<i>Menidia beryllina</i>							
	LC	1.1	2.0	3.5	6.2	11	20	35	LC	1.1	2.0	3.5	6.2	11	20	35
Temp. (°C)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D.O. (mg/l)	6.2	6.1	6.1	6.1	6.1	6.5	6.3	6.7	6.2	6.2	6.1	6.2	6.2	6.2	6.4	7.0
	1.0	1.0	1.0	1.0	1.0	1.9	1.0	0.9	0.7	0.6	0.7	0.7	0.7	0.9	1.0	0.4
pH (S.U.)	7.58	7.62	7.63	7.63	7.65	7.66	7.66	7.71	7.58	7.49	7.53	7.52	7.69	7.71	7.67	7.70
	0.14	0.11	0.10	0.13	0.12	0.10	0.08	0.06	0.10	0.15	0.13	0.15	0.08	0.03	0.10	0.06

Water Quality (Mean/Std. Dev.): SDS Reference Test												
Conc. ppm:	<i>Mysidopsis bahia</i>						<i>Menidia beryllina</i>					
	LC*	3.2	5.8	10	18	32	LC	3.2	5.8	10	18	32
Temp. (°C)	25	25	25	25	25	25	25	25	25	25	25	25
	0	0	0	0	0	0	0	0	0	0	0	0
D.O. (mg/l)	6.6	6.4	6.4	6.2	6.2	6.5	7.0	7.1	7.1	7.0	7.0	7.0
	0.7	0.8	0.8	1.0	1.0	1.1	0.4	0.3	0.3	0.5	0.5	0.5
pH (S.U.)	7.65	7.62	7.64	7.62	7.57	7.59	7.80	7.79	7.79	7.71	7.73	7.71
	0.14	0.12	0.10	0.10	0.15	0.21	0.13	0.09	0.09	0.06	0.02	0.06

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED:


 Peter F. De Lisle, Ph.D.
 Technical Director

6/14/10
 Date

Client: V4 Distributing LLC
Product Name: Safe Kleen
Test Period: 6/10/10 to 6/14/10
CBI Project ID: V4DI1001
(Report amended 11/29/10)



Literature Cited:

Stephan, C.E. 1977. Methods for Calculating an LC50. In: *Aquatic Toxicology and Hazard Evaluation*. ASTM STP 634. F.L. Mayer and J.L. Hamelink, eds. American Society for Testing and Materials, pp 65-84.

Species: *Mysidopsis (Americamysis) bahia*

Source: CBI stock cultures

Other: _____

Harvest: Date/time start: 6/3/10 0840

Date /time end: 6/4/10 0915

Acclimation: Water: ASW 20 g/kg salinity

Other: _____

Temperature (°C): 25

Dilution Water Source: WAMP

Dilution Water Collection Date: 6/9/10

Feeding: Prior to test: *Artemia ad libitum*
During test: ~50 *Artemia*/mysid/day

Illumination: 16L:8D 10-20 uE/m²/s

Test chamber: 1000 ml glass beaker

Solution volume: 1000 ml

Number of replicates/treatment: 2

Initial number of mysids/replicate: 10

Reference Oil "A" No. A 200

SDS Ref. Toxicant "A" No. A 53

Set up: Date (Day 0): 6/10/10

Time water added: 1030-1150

Time mysids added: 1230-1300

Set up by (initials): PD/RB

NOTES:

Peer Rev by: RB Date: 6/14/10

SDS (ppm)	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival
Lab Control	C-A	10	10	10	100
	C-B	10	10	10	
3.2 ppm	1-A	10	10	10	100
	1-B	10	10	10	
5.8 ppm	2-A	10	10	10	100
	2-B	10	10	10	
10 ppm	3-A	10	10	10	100
	3-B	10	10	10	
18 ppm	4-A	10	4	4	40
	4-B	10	4	4	
32 ppm	5-A	10	0	0	0
	5-B	10	0	0	
Initials:		PD	R	CR	*Test End Time
Count Time:		1230	1045	1250	

SDS Test Water Quality

Parameter	Treatment I.D.	Day 0	Day 1	Day 2
Temp. (°C)	C	25	25	25
	1	25	25	25
	2	25	25	25
	3	25	25	25
	4	25	25	25
	5	25	25	—
pH (S.U.)	C	7.74	7.49	7.71
	1	7.74	7.51	7.67
	2	7.75	7.60	7.56
	3	7.74	7.55	7.58
	4	7.74	7.53	7.44
	5	7.74	7.44	—
D.O. (mg/l)	C	7.3	6.0	6.4
	1	7.3	5.8	6.2
	2	7.3	5.9	6.0
	3	7.3	5.6	5.6
	4	7.3	5.7	5.5
	5	7.3	5.7	—
Salinity (g/kg)	C	20		20
	1			
	2			
	3			
	4			20
	5	20	20	—
Replicate Measured:		A	B	R
Initials:		PD	R	CR

Acute Mysid Test-24 Hr Survival

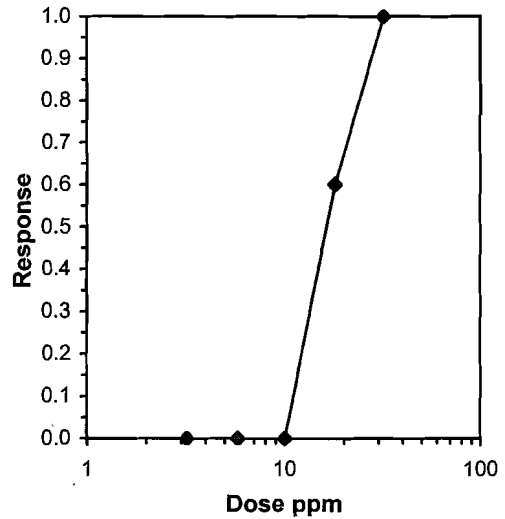
Start Date: 6/10/2010 12:30 Test ID: V4D11001 Sample ID: SAFE KLEEN
 End Date: 6/12/2010 12:50 Lab ID: CBI Sample Type: SDS
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MY-Mysidopsis bahia
 Comments:

Conc-ppm	1	2
CONTROL	1.0000	1.0000
3.2	1.0000	1.0000
5.8	1.0000	1.0000
10	1.0000	1.0000
18	0.4000	0.4000
32	0.0000	0.0000

Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
3.2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
5.8	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
10	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
18	0.4000	0.4000	0.6847	0.6847	0.6847	0.000	2	12	20
32	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Trim Level	Trimmed Spearman-Kärber		
	EC50	95% CL	
0.0%	16.930	14.905	19.231
5.0%	16.838	14.624	19.387
10.0%	16.747	14.320	19.586
20.0%	16.572	13.595	20.201
Auto-0.0%	16.930	14.905	19.231



PRODUCT (ppm)	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival
Seawater Control	C-A	10	10	10	100
	C-B	10	10	10	
104/62	1-A	10/10	10/10	10/10	100/100
	1-B	10/10	10/10	10/10	
173	2-A	10	8	7	85
	2-B	10	10	10	
288	3-A	10	9	4	45
	3-B	10	10	5	
480	4-A	10	0	-	0
	4-B	10	0	-	
800	5-A	10	0	-	0
	5-B	10	0	-	
Initials:		PP	PO	CA	
Count Time:		1240	0950	1055	*Test End Time

OIL (ppm)	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival
Seawater Control	C-A	10	10	10	100
	C-B	10	10	10	
2.0 ppm	1-A	10	10	10	100
	1-B	10	10	10	
3.5 ppm	2-A	10	10	9	95
	2-B	10	10	10	
6.2 ppm	3-A	10	10	1	30
	3-B	10	10	5	
11 ppm	4-A	10	10	2	20
	4-B	10	10	2	
20 ppm	5-A	10	0	0	0
	5-B	10	0	0	
Initials:		PO	PO	CB	
Count Time:		1245	0950	1050	*Test End Time

800 ml/L
Product Test Water Quality

Parameter	Treatment I.D.	Day 0	Day 1	Day 2
Temp. (°C)	C	25	25	25
	1/0	25/25	25/25	25/25
	2	25	25	25
	3	25	25	25
	4	25	25	-
	5	25	25	-
pH (S.U.)	C	7.74	7.49	7.49
	1/0	7.80/7.77	7.56/7.81	7.41/7.54
	2	7.90	7.55	7.58
	3	8.02	7.66	7.75
	4	8.15	7.71	-
	5	8.39	7.79	-
D.O. (mg/l)	C	7.3	5.8	6.1
	1/0	7.3/7.3	5.9/6.0	6.1/6.1
	2	7.3	5.8	6.1
	3	7.3	5.7	6.2
	4	7.3	5.8	-
	5	7.2	5.9	-
Salinity (g/kg)	C	20		20
	1/0			
	2			
	3			20
	4			-
	5	20	20	-
Replicate Measured:		A	B	A
Initials:		PP	PO	CA

Oil Test Water Quality

Parameter	Treatment I.D.	Day 0	Day 1	Day 2
Temp. (°C)	C	25	25	25
	1	25	25	25
	2	25	25	25
	3	25	25	25
	4	25	25	25
	5	25	25	-
pH (S.U.)	C	7.74	7.52	7.56
	1	7.74	7.58	7.59
	2	7.73	7.57	7.66
	3	7.77	7.55	7.46
	4	7.73	7.59	7.80
	5	7.74	7.61	-
D.O. (mg/l)	C	7.3	6.1	6.1
	1	7.3	6.0	6.0
	2	7.3	5.8	6.1
	3	7.3	6.1	6.1
	4	7.3	6.2	6.3
	5	7.3	6.2	-
Salinity (g/kg)	C	20		20
	1			
	2			
	3			
	4			20
	5	20	20	-
Replicate Measured:		A	B	A
Initials:		PO	PO	CA

Acute Mysid Test-24 Hr Survival

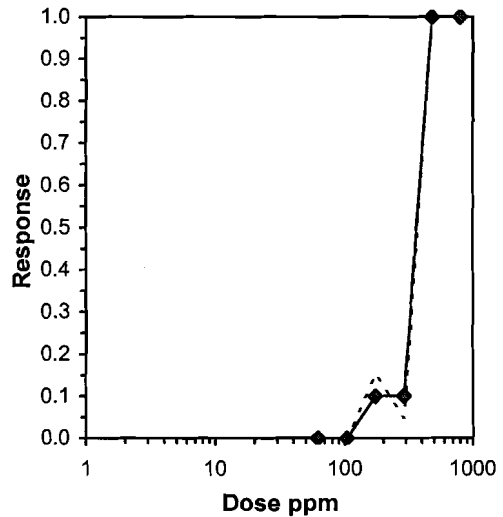
Start Date: 6/10/2010 12:30	Test ID: V4DI1001A	Sample ID: SAFE KLEEN
End Date: 6/12/2010 12:55	Lab ID: CBI	Sample Type: PRODUCT
Sample Date:	Protocol: EPAA 91-EPA Acute	Test Species: MY-Mysidopsis bahia

Conc-ppm	1	2
CONTROL	1.0000	1.0000
62	1.0000	1.0000
104	1.0000	1.0000
173	0.7000	1.0000
288	0.9000	1.0000
480	0.0000	0.0000
800	0.0000	0.0000

Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
62	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
104	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
173	0.8500	0.8500	1.2016	0.9912	1.4120	24.767	2	3	20
288	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	1	20
480	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
800	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Trimmed Spearman-Kärber			
Trim Level	EC50	95% CL	
0.0%	335.77	304.81	369.87
5.0%	349.11	315.61	386.18
10.0%	361.40	346.43	377.02
20.0%	361.40	346.43	377.02
Auto-0.0%	335.77	304.81	369.87



Acute Mysid Test-48 Hr Survival

Start Date: 6/10/2010 12:30	Test ID: V4DI1001A	Sample ID: SAFE KLEEN
End Date: 6/12/2010 12:55	Lab ID: CBI	Sample Type: PRODUCT
Sample Date:	Protocol: EPAA 91-EPA Acute	Test Species: MY-Mysidopsis bahia

Comments:

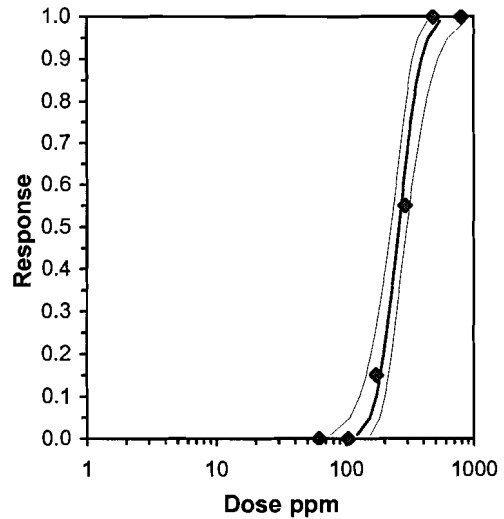
Conc-ppm	1	2
CONTROL	1.0000	1.0000
62	1.0000	1.0000
104	1.0000	1.0000
173	0.7000	1.0000
288	0.4000	0.5000
480	0.0000	0.0000
800	0.0000	0.0000

Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
62	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
104	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
173	0.8500	0.8500	1.2016	0.9912	1.4120	24.767	2	3	20
288	0.4500	0.4500	0.7351	0.6847	0.7854	9.685	2	11	20
480	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
800	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Parameter	Value	SE	95% Fiducial Limits		Maximum Likelihood-Probit						
			Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter		
Slope	7.14481	1.35208	4.49474	9.79489	0	1.58919	9.48773	0.81	2.41114	0.13996	5
Intercept	-12.227	3.26611	-18.629	-5.8256							

Point	Probits	ppm	95% Fiducial Limits	
EC01	2.674	121.771	75.9978	153.66
EC05	3.355	151.679	106.594	182.318
EC10	3.718	170.519	127.217	200.417
EC15	3.964	184.536	143	214.142
EC20	4.158	196.493	156.617	226.168
EC25	4.326	207.367	169.009	237.469
EC40	4.747	237.511	202.525	271.476
EC50	5.000	257.716	223.561	297.197
EC60	5.253	279.641	244.686	328.143
EC75	5.674	320.291	279.643	393.333
EC80	5.842	338.016	293.591	424.49
EC85	6.036	359.918	310.056	464.945
EC90	6.282	389.502	331.267	522.665
EC95	6.645	437.883	364.129	623.83
EC99	7.326	545.433	432.01	875.033



Acute Mysid Test-24 Hr Survival

Start Date: 6/10/2010 12:30 Test ID: V4DI1001B Sample ID: SAFE KLEEN
 End Date: 6/12/2010 12:50 Lab ID: CBI Sample Type: OIL
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MY-Mysidopsis bahia
 Comments:

Conc-ppm	1	2
CONTROL	1.0000	1.0000
2	1.0000	1.0000
3.5	1.0000	1.0000
6.2	1.0000	1.0000
11	1.0000	1.0000
20	0.0000	0.0000

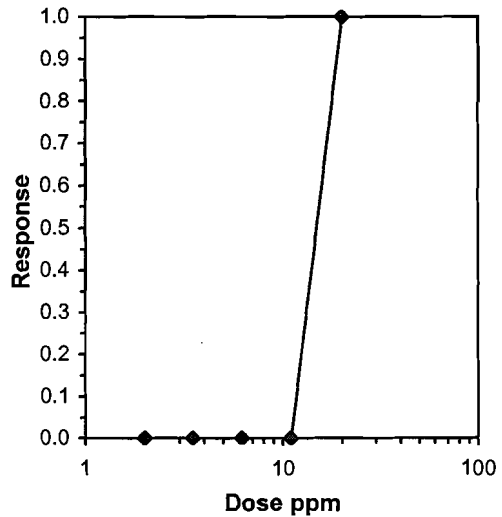
Conc-ppm	Mean	N-Mean	Transform: Arcsin Square Root					N	Number Resp	Total Number
			Mean	Min	Max	CV%				
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
3.5	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
6.2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
11	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
20	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20	

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Graphical Method

Trim Level ~~EC50~~
 0.0% 14.832

14.832



Acute Mysid Test-48 Hr Survival

Start Date: 6/10/2010 12:30	Test ID: V4DI1001B	Sample ID: SAFE KLEEN
End Date: 6/12/2010 12:50	Lab ID: CBI	Sample Type: OIL
Sample Date:	Protocol: EPAA 91-EPA Acute	Test Species: MY-Mysidopsis bahia

Comments:

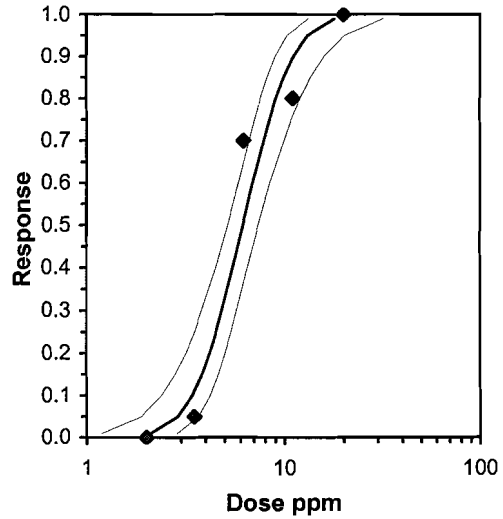
Conc-ppm	1	2
CONTROL	1.0000	1.0000
2	1.0000	1.0000
3.5	0.9000	1.0000
6.2	0.1000	0.5000
11	0.2000	0.2000
20	0.0000	0.0000

Conc-ppm	Mean	N-Mean	Transform: Arcsin Square Root					N	Number Resp	Total Number
			Mean	Min	Max	CV%				
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
3.5	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	1	20	
6.2	0.3000	0.3000	0.5536	0.3218	0.7854	59.224	2	14	20	
11	0.2000	0.2000	0.4636	0.4636	0.4636	0.000	2	16	20	
20	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20	

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Parameter	Value	SE	95% Fiducial Limits		Maximum Likelihood-Probfit						
			Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter		
Slope	4.99888	0.85187	3.32922	6.66853	0	5.98928	7.81473	0.11	0.789	0.20004	3
Intercept	1.05588	0.69522	-0.3067	2.4185							

Point	Probits	ppm	95% Fiducial Limits	
EC01	2.674	2.10682	1.18886	2.85692
EC05	3.355	2.88374	1.87896	3.66445
EC10	3.718	3.40905	2.38766	4.20299
EC15	3.964	3.81652	2.79814	4.6243
EC20	4.158	4.17483	3.16612	5.0017
EC25	4.326	4.50892	3.51178	5.36269
EC40	4.747	5.47419	4.49671	6.48138
EC50	5.000	6.15178	5.15252	7.35584
EC60	5.253	6.91324	5.84142	8.43767
EC75	5.674	8.39323	7.05021	10.8191
EC80	5.842	9.0649	7.55617	12.0048
EC85	6.036	9.91595	8.17004	13.5882
EC90	6.282	11.1012	8.98619	15.9293
EC95	6.645	13.1234	10.3037	20.2481
EC99	7.326	17.9629	13.2122	32.011



PRODUCT +OIL (ppm)	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival
Seawater Control	C-A	10	10	10	100
	C-B	10	10	10	
1.1 ppm	1-A	10	10	10	100
	1-B	10	10	10	
2.0 ppm	2-A	10	10	10	100
	2-B	10	10	10	
3.5 ppm	3-A	10	10	10	100
	3-B	10	10	10	
6.2 ppm	4-A	10	10	3	35
	4-B	10	9	4	
11 ppm	5-A	10	10	2 [Ⓢ]	20
	5-B	10	9	2 [Ⓢ]	
20 ppm	6-A	10	3	0	0
	6-B	10	1	0	
35 ppm	7-A	10	0	0	0
	7-B	10	0	0	
Initials:		P0	PA	CB	
Count Time:		1250	1030	1240	*Test End Time

Oil+Product Test Water Quality

Parameter	Treatment I.D.	Day 0	Day 1	Day 2
Temp. (°C)	C	25	25	25
	1	25	25	25
	2	25	25	25
	3	25	25	25
	4	25	25	25
	5	25	25	25
	6	25	25	25
pH (S.U.)	C	7.74	7.51	7.50
	1	7.74	7.54	7.57
	2	7.77	7.55	7.59
	3	7.75	7.49	7.64
	4	7.75	7.52	7.68
	5	7.75	7.55	7.68
	6	7.75	7.61	7.61
D.O. (mg/l)	C	7.3	5.6	5.4
	1	7.3	5.5	5.6
	2	7.3	5.5	5.5
	3	7.3	5.6	5.5
	4	7.3	5.5	5.5
	5	7.3	6.6	5.5
	6	7.3	6.1	5.4
Salinity (g/kg)	C	20		20
	1			
	2			
	3			
	4			
	5			
	6			20
7	20	20		
Replicate Measured:		A	B	A
Initials:		P0	PA	CB

Ⓢ most birds @ surface

Acute Mysid Test-24 Hr Survival

Start Date: 6/10/2010 12:30 Test ID: V4DI1001C Sample ID: SAFE KLEEN
 End Date: 6/12/2010 12:40 Lab ID: CBI Sample Type: PRODUCT + OIL
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MY-Mysidopsis bahia
 Comments:

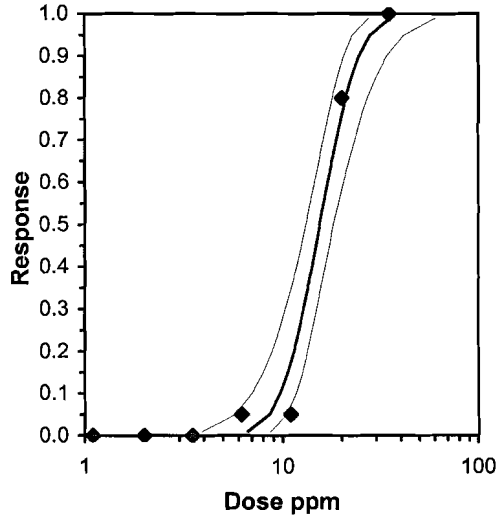
Conc-ppm	1	2
CONTROL	1.0000	1.0000
1.1	1.0000	1.0000
2	1.0000	1.0000
3.5	1.0000	1.0000
6.2	1.0000	0.9000
11	1.0000	0.9000
20	0.3000	0.1000
35	0.0000	0.0000

Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
1.1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
3.5	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
6.2	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	1	20
11	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	1	20
20	0.2000	0.2000	0.4507	0.3218	0.5796	40.461	2	16	20
35	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Parameter	Value	SE	95% Fiducial Limits		Maximum Likelihood-Probit						
					Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	6.38989	1.21009	4.0181	8.76167	0	9.4934	11.0705	0.09	1.18877	0.1565	4
Intercept	-2.5961	1.45584	-5.4496	0.25732							
TSCR											

Point	Probits	ppm	95% Fiducial Limits	
EC01	2.674	6.6789	3.92687	8.68052
EC05	3.355	8.53801	5.73261	10.5106
EC10	3.718	9.73223	6.98639	11.6844
EC15	3.964	10.631	7.96272	12.5828
EC20	4.158	11.4041	8.81563	13.3753
EC25	4.326	12.112	9.59988	14.1242
EC40	4.747	14.0969	11.757	16.3987
EC50	5.000	15.4444	13.1365	18.1382
EC60	5.253	16.9208	14.54	20.2524
EC75	5.674	19.6937	16.8966	24.7809
EC80	5.842	20.9162	17.847	26.9788
EC85	6.036	22.4373	18.9753	29.8619
EC90	6.282	24.5093	20.4385	34.028
EC95	6.645	27.9375	22.7257	41.4619
EC99	7.326	35.7141	27.5223	60.5159



Acute Mysid Test-48 Hr Survival

Start Date: 6/10/2010 12:30	Test ID: V4D11001C	Sample ID: SAFE KLEEN
End Date: 6/12/2010 12:40	Lab ID: CBI	Sample Type: PRODUCT + OIL
Sample Date:	Protocol: EPAA 91-EPA Acute	Test Species: MY-Mysidopsis bahia

Comments:

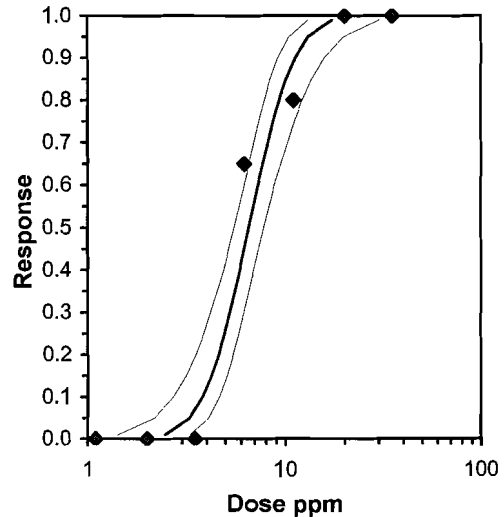
Conc-ppm	1	2
CONTROL	1.0000	1.0000
1.1	1.0000	1.0000
2	1.0000	1.0000
3.5	1.0000	1.0000
6.2	0.3000	0.4000
11	0.2000	0.2000
20	0.0000	0.0000
35	0.0000	0.0000

Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
1.1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
3.5	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
6.2	0.3500	0.3500	0.6322	0.5796	0.6847	11.753	2	13	20
11	0.2000	0.2000	0.4636	0.4636	0.4636	0.000	2	16	20
20	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
35	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Parameter	Value	SE	95% Fiducial Limits		Maximum Likelihood-Probit						
			Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter		
Slope	5.49033	0.96975	3.58963	7.39103	0	6.61941	11.0705	0.25	0.81477	0.18214	8
Intercept	0.52664	0.81155	-1.064	2.11727							

Point	Probits	ppm	95% Fiducial Limits	
EC01	2.674	2.46067	1.41949	3.27504
EC05	3.355	3.27477	2.16918	4.10309
EC10	3.718	3.81374	2.70791	4.64661
EC15	3.964	4.22666	3.13602	5.06804
EC20	4.158	4.58648	3.51555	5.4432
EC25	4.326	4.9195	3.86876	5.80028
EC40	4.747	5.86985	4.85976	6.89776
EC50	5.000	6.52787	5.50827	7.74753
EC60	5.253	7.25965	6.18064	8.79022
EC75	5.674	8.66208	7.34052	11.0563
EC80	5.842	9.29102	7.81926	12.1715
EC85	6.036	10.082	8.39537	13.6489
EC90	6.282	11.1736	9.15407	15.8115
EC95	6.645	13.0126	10.3637	19.744
EC99	7.326	17.3177	12.9803	30.1801



Species: *Menidia beryllina*

Source: CBI stock cultures

Other: ABS

Hatch: Date/time start: 6/3/10

Date /time end: _____

Acclimation: Water: ASW, 20 g/kg salinity

Other: _____

Temperature (°C): 25

Dilution Water Source: WATER

Dilution Water Collection Date: 6/9/10

Feeding: Prior to test: Rotifers & *Artemia ad libitum*
During test: ~50 *Artemia*/fish/day

Illumination: 16L:8D 10-20 uE/m²/s

Test chamber: 1000 ml glass beaker

Solution volume: 1000 ml

Number of replicates/treatment: 2

Initial number of fish/replicate: 10

Reference Oil "A" No. A 200

SDS Ref. Toxicant "A" No. A53

Set up: Date (Day 0): 6/10/10

Time water added: 1030 - 1150

Time fish added: 1300 - 1330

Set up by (initials): PD/PB

NOTES:

① D.O. = 3.80 1730 - Aeration (SDS test only) began PD

Peer Rev PD Date 6/14/10

SDS (ppm)	I.D.	D0 Live	D1 Live	D2 Live	D3 Live	D4 Live	Final % Survival
Seawater Control	C-A	10	10	10	10	10	100
	C-B	10	10	10	10	10	
3.2 ppm	1-A	10	10	10	10	10	100
	1-B	10	10	10	10	10	
5.8 ppm	2-A	10	10	10	10	10	100
	2-B	10	10	10	10	10	
10 ppm	3-A	10	0	-	-	-	0
	3-B	10	0	-	-	-	
18 ppm	4-A	10	0	-	-	-	0
	4-B	10	0	-	-	-	
32 ppm	5-A	10	0	-	-	-	0
	5-B	10	0	-	-	-	
Initials:		PA	PA	GB	AG	PD	
Count Time:		1300	1040	1255	0935	1320	*Test end time

SDS Test Water Quality

Parameter	Trt I.D.	Day 0	Day 1	Day 2	Day 3	Day 4
Temp. (°C)	C	25	25	25	25	25
	1	25	25	25	25	25
	2	25	25	25	25	25
	3	25	25	-	-	-
	4	25	25	-	-	-
	5	25	25	-	-	-
pH (S.U.)	C	7.74	7.61	7.41	7.89	7.86
	1	7.74	7.66	7.82	7.89	7.83
	2	7.75	7.65	7.80	7.89	7.85
	3	7.75	7.62	-	-	-
	4	7.75	7.71	-	-	-
	5	7.74	7.66	-	-	-
D.O. (mg/l)	C	7.3	6.3	7.2	7.2	7.2
	1	7.3	6.6	7.2	7.2	7.2
	2	7.3	6.3	7.2	7.2	7.2
	3	7.3	6.6	-	-	-
	4	7.3	6.6	-	-	-
	5	7.30	6.6	-	-	-
Salin. (g/kg)	C	20		20		20
	1					
	2			20		20
	3					
	4					
	5	20				
Replicate Measured:		A	B	A	A	B
Initials:		PD	GB	GB	AG	GB

Acute Fish Test-24 Hr Survival

Start Date: 6/10/2010 13:00 Test ID: V4DI1001D Sample ID: SAFE KLEEN
 End Date: 6/14/2010 13:20 Lab ID: CBI Sample Type: SDS
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MB-Menidia beryllina
 Comments:

Conc-ppm	1	2
CONTROL	1.0000	1.0000
3.2	1.0000	1.0000
5.8	1.0000	1.0000
10	0.0000	0.0000
18	0.0000	0.0000
32	0.0000	0.0000

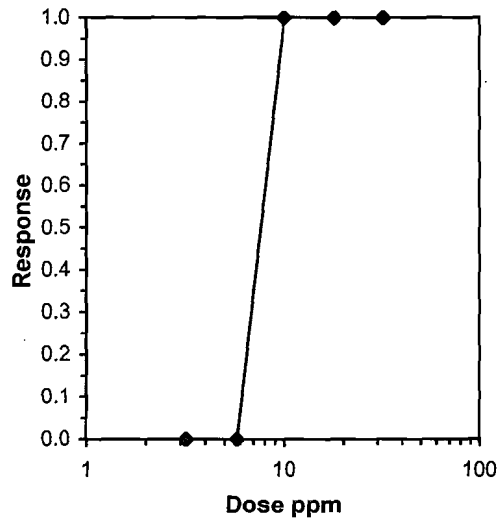
Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
3.2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
5.8	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
10	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
18	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
32	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Graphical Method

Trim Level	EC50
0.0%	7.6158

7.6158



Acute Fish Test-48 Hr Survival

Start Date: 6/10/2010 13:00 Test ID: V4DI1001D Sample ID: SAFE KLEEN
 End Date: 6/14/2010 13:20 Lab ID: CBI Sample Type: SDS
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MB-Menidia beryllina
 Comments:

Conc-ppm	1	2
CONTROL	1.0000	1.0000
3.2	1.0000	1.0000
5.8	1.0000	1.0000
10	0.0000	0.0000
18	0.0000	0.0000
32	0.0000	0.0000

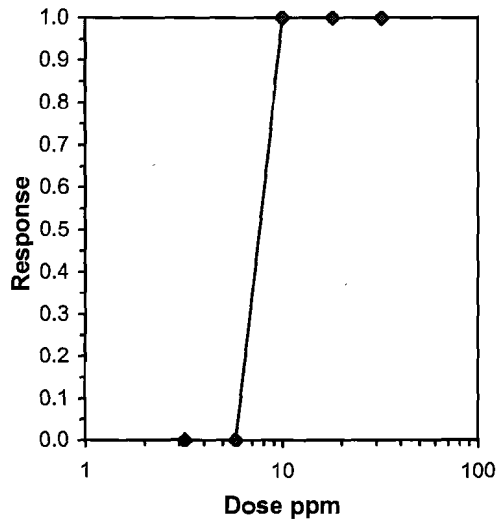
Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
3.2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
5.8	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
10	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
18	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
32	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Graphical Method

Trim Level	EC50
0.0%	7.6158

7.6158



Acute Fish Test-72 Hr Survival

Start Date: 6/10/2010 13:00 Test ID: V4D11001D Sample ID: SAFE KLEEN
 End Date: 6/14/2010 13:20 Lab ID: CBI Sample Type: SDS
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MB-Menidia beryllina
 Comments:

Conc-ppm	1	2
CONTROL	1.0000	1.0000
3.2	1.0000	1.0000
5.8	1.0000	1.0000
10	0.0000	0.0000
18	0.0000	0.0000
32	0.0000	0.0000

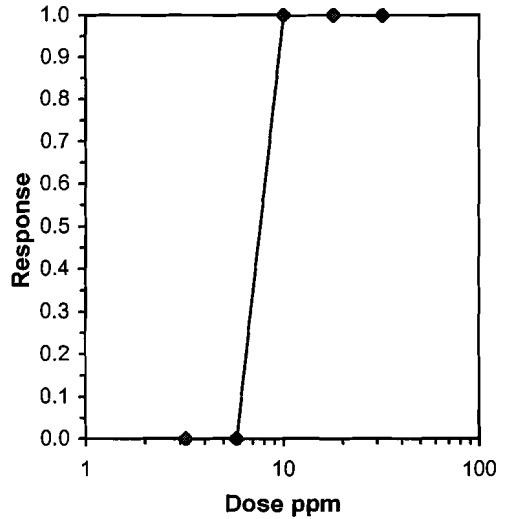
Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
3.2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
5.8	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
10	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
18	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
32	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Graphical Method

Trim Level	EC50
0.0%	7.6158

7.6158



Acute Fish Test-96 Hr Survival

Start Date: 6/10/2010 13:00 Test ID: V4DI1001D Sample ID: SAFE KLEEN
 End Date: 6/14/2010 13:20 Lab ID: CBI Sample Type: SDS
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MB-Menidia beryllina
 Comments:

Conc-ppm	1	2
CONTROL	1.0000	1.0000
3.2	1.0000	1.0000
5.8	1.0000	1.0000
10	0.0000	0.0000
18	0.0000	0.0000
32	0.0000	0.0000

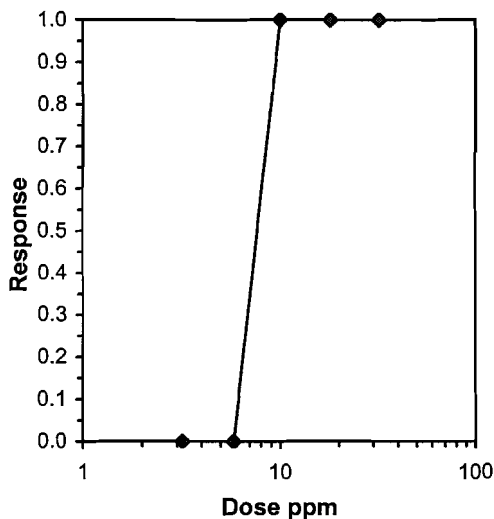
Conc-ppm	Mean	N-Mean	Transform: Arcsin Square Root					N	Number Resp	Total Number
			Mean	Min	Max	CV%				
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
3.2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
5.8	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
10	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20	
18	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20	
32	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20	

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Graphical Method

Trim Level	EC50
0.0%	7.6158

7.6158



Product (ppm)	I.D.	D0 Live	D1 Live	D2 Live	D3 Live	D4 Live	Final % Survival
Seawater Control	C-A	10	10	10	10	10	100
	C-B	10	10	10	10	10	
104/62	1-A	10/10	10/10	10/8	10/8	10/8	100/85
	1-B	10/10	10/10	10/10	10/10	10/9	
173	2-A	10	8	6	6	5	70
	2-B	10	10	10	10	9	
288	3-A	10	0	-	-	-	0
	3-B	10	0	-	-	-	
480	4-A	10	0	-	-	-	0
	4-B	10	0	-	-	-	
800 [Ⓢ]	5-A	10	0	-	-	-	0
	5-B	10	0	-	-	-	
Initials:		PO	PO	GO	AG	PO	
Count Time:		1310	1020	1305	0925	1310	Test end time

Ⓢ 800 ml/L
Product Test Water Quality

Parameter	Trt I.D.	Day 0	Day 1	Day 2	Day 3	Day 4
Temp. (°C)	C	25	25	25	25	25
	1/0	25/25	25/25	25/25	25/25	25/25
	2	25	25	25	25	25
	3	25	25	-	-	-
	4	25	25	-	-	-
	5	25	25	-	-	-
pH (S.U.)	C	7.73	7.59	7.40	7.51	7.33
	1/0	7.74/7.76	7.73/7.60	7.60/7.40	7.54/7.55	7.38/7.38
	2	7.91	7.76	7.58	7.52	7.34
	3	8.03	7.81	-	-	-
	4	8.15	7.87	-	-	-
	5	8.39	8.17	-	-	-
D.O. (mg/l)	C	7.3	5.2	5.0	5.3	5.1
	1/0	7.3/7.3	5.1/5.2	4.8/4.8	4.9/5.1	5.1/5.0
	2	7.3	5.1	4.6	4.8	4.6
	3	7.3	5.3	-	-	-
	4	7.3	5.2	-	-	-
	5	7.3	5.3	-	-	-
Salin. (g/kg)	C	20		20		20
	1/0					
	2			20		20
	3			-	-	-
	4			-	-	-
	5	20	20	-	-	-
Replicate Measured:		A	B	A	B	A
Initials:		PO	PO	GO	AG	PO

OIL (ppm)	I.D.	D0 Live	D1 Live	D2 Live	D3 Live	D4 Live	Final % Survival
Seawater Control	C-A	10	10	10	10	10	100
	C-B	10	10	10	10	10	
2.0 ppm	1-A	10	10	10	9	9	95
	1-B	10	10	10	10	10	
3.5 ppm	2-A	10	10	7	6	6	45
	2-B	10	10	5	4	3	
6.2 ppm	3-A	10	10	0	-	-	0
	3-B	10	10	0	-	-	
11 ppm	4-A	10	2	0	-	-	0
	4-B	10	4	0	-	-	
20 ppm	5-A	10	0	-	-	-	0
	5-B	10	0	-	-	-	
Initials:		PO	PO	GO	AG	PO	
Count Time:		1320	1020	1300	0930	1315	Test end time

Oil Test Water Quality

Parameter	Trt I.D.	Day 0	Day 1	Day 2	Day 3	Day 4
Temp. (°C)	C	25	25	25	25	25
	1	25	25	25	25	25
	2	25	25	25	25	25
	3	25	25	25	-	-
	4	25	25	25	-	-
	5	25	25	-	-	-
pH (S.U.)	C	7.74	7.56	7.47	7.59	7.26
	1	7.73	7.55	7.56	7.41	7.38
	2	7.73	7.57	7.57	7.55	7.44
	3	7.73	7.58	7.49	-	-
	4	7.74	7.66	7.52	-	-
	5	7.73	7.61	-	-	-
D.O. (mg/l)	C	7.3	5.6	4.7	5.5	4.4
	1	7.3	5.6	4.3	4.6	4.6
	2	7.3	5.5	4.3	5.3	5.1
	3	7.3	5.6	4.3	-	-
	4	7.3	5.6	4.2	-	-
	5	7.3	5.9	-	-	-
Salin. (g/kg)	C	20		20		20
	1					
	2					20
	3				-	-
	4			20	-	-
	5	20		-	-	-
Replicate Measured:		A	B	A	B	A
Initials:		PO	PO	GO	AG	PO

Acute Fish Test-24 Hr Survival

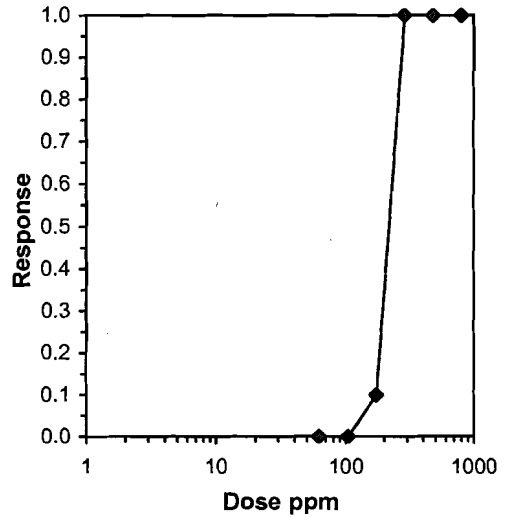
Start Date: 6/10/2010 13:00 Test ID: V4DI1001E Sample ID: SAFE KLEEN
 End Date: 6/14/2010 13:10 Lab ID: CBI Sample Type: PRODUCT
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MB-Menidia beryllina
 Comments:

Conc-ppm	1	2
CONTROL	1.0000	1.0000
62	1.0000	1.0000
104	1.0000	1.0000
173	0.8000	1.0000
288	0.0000	0.0000
480	0.0000	0.0000
800	0.0000	0.0000

Conc-ppm	Mean	N-Mean	Transform: Arcsin Square Root					N	Number Resp	Total Number
			Mean	Min	Max	CV%				
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
62	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
104	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
173	0.9000	0.9000	1.2596	1.1071	1.4120	17.115	2	2	20	
288	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20	
480	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20	
800	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20	

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Trim Level	Trimmed Spearman-Kärber		
	EC50	95% CL	
0.0%	212.13	198.12	227.13
5.0%	215.62	198.00	234.82
10.0%	216.98	208.01	226.34
20.0%	216.98	208.01	226.34
Auto-0.0%	212.13	198.12	227.13



Acute Fish Test-72 Hr Survival

Start Date: 6/10/2010 13:00 Test ID: V4D11001E Sample ID: SAFE KLEEN
 End Date: 6/14/2010 13:10 Lab ID: CBI Sample Type: PRODUCT
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MB-Menidia beryllina
 Comments:

Conc-ppm	1	2
CONTROL	1.0000	1.0000
62	0.8000	1.0000
104	1.0000	1.0000
173	0.6000	1.0000
288	0.0000	0.0000
480	0.0000	0.0000
800	0.0000	0.0000

Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
62	0.9000	0.9000	1.2596	1.1071	1.4120	17.115	2	2	20
104	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
173	0.8000	0.8000	1.1490	0.8861	1.4120	32.366	2	4	20
288	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
480	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
800	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests Statistic Critical Skew Kurt

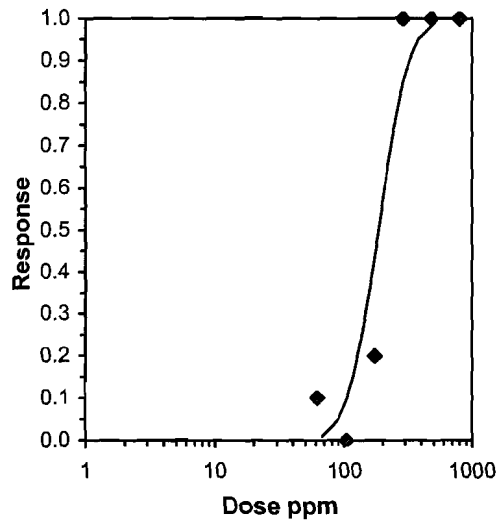
Normality of the data set cannot be confirmed
 Equality of variance cannot be confirmed

Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	5.29803	2.73533	-2.2965	12.8925	0	39.3375	9.48773	5.9E-08	2.26431	0.18875	7
Intercept	-6.9964	6.22258	-24.273	10.2803							

TSCR

Point	Probits	ppm	95% Fiducial Limits	
EC01	2.674	66.8678		
EC05	3.355	89.9184		
EC10	3.718	105.298		
EC15	3.964	117.135		
EC20	4.158	127.485		
EC25	4.326	137.09		
EC40	4.747	164.825		
EC50	5.000	183.787		
EC60	5.253	205.179		
EC75	5.674	246.39		
EC80	5.842	264.953		
EC85	6.036	288.363		
EC90	6.282	320.779		
EC95	6.645	375.646		
EC99	7.326	505.139		



Significant heterogeneity detected (p = 5.93E-08)

Acute Fish Test-24 Hr Survival

Start Date: 6/10/2010 13:00	Test ID: V4DI1001F	Sample ID: SAFE KLEEN
End Date: 6/14/2010 13:15	Lab ID: CBI	Sample Type: OIL
Sample Date:	Protocol: EPAA 91-EPA Acute	Test Species: MB-Menidia beryllina

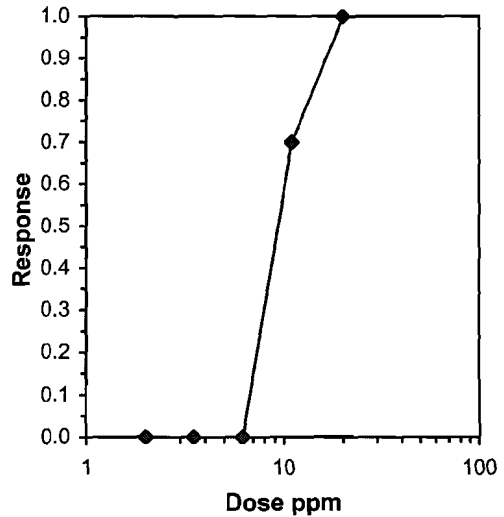
Comments:

Conc-ppm	1	2
CONTROL	1.0000	1.0000
2	1.0000	1.0000
3.5	1.0000	1.0000
6.2	1.0000	1.0000
11	0.2000	0.4000
20	0.0000	0.0000

Conc-ppm	Mean	N-Mean	Transform: Arcsin Square Root					N	Number Resp	Total Number
			Mean	Min	Max	CV%				
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
3.5	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
6.2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
11	0.3000	0.3000	0.5742	0.4636	0.6847	27.225	2	14	20	
20	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20	

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Trimmed Spearman-Kärber			
Trim Level	EC50	95% CL	
0.0%	9.8444	8.7311	11.0996
5.0%	9.7263	8.5254	11.0964
10.0%	9.6160	8.3347	11.0943
20.0%	9.4297	8.0143	11.0950
Auto-0.0%	9.8444	8.7311	11.0996



Acute Fish Test-48 Hr Survival

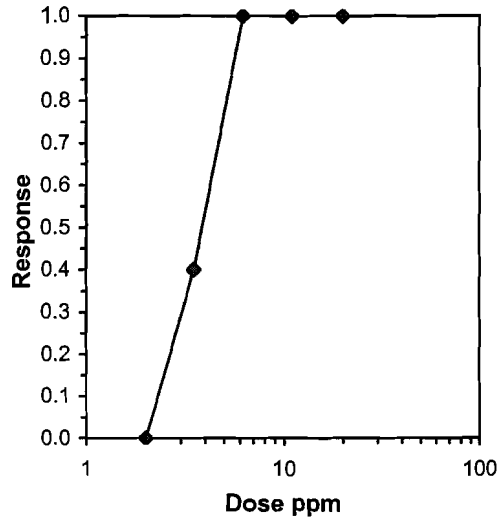
Start Date: 6/10/2010 13:00 Test ID: V4DI1001F Sample ID: SAFE KLEEN
 End Date: 6/14/2010 13:15 Lab ID: CBI Sample Type: OIL
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MB-Menidia beryllina
 Comments:

Conc-ppm	1	2
CONTROL	1.0000	1.0000
2	1.0000	1.0000
3.5	0.7000	0.5000
6.2	0.0000	0.0000
11	0.0000	0.0000
20	0.0000	0.0000

Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
3.5	0.6000	0.6000	0.8883	0.7854	0.9912	16.379	2	8	20
6.2	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
11	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
20	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Trim Level	EC50	95% CL	
0.0%	3.7150	3.2819	4.2052
5.0%	3.7348	3.2525	4.2887
10.0%	3.7546	3.2073	4.3952
20.0%	3.7931	3.0425	4.7289
Auto-0.0%	3.7150	3.2819	4.2052



Acute Fish Test-72 Hr Survival

Start Date: 6/10/2010 13:00 Test ID: V4DI1001F Sample ID: SAFE KLEEN
 End Date: 6/14/2010 13:15 Lab ID: CBI Sample Type: OIL
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MB-Menidia beryllina
 Comments:

Conc-ppm	1	2
CONTROL	1.0000	1.0000
2	0.9000	1.0000
3.5	0.6000	0.4000
6.2	0.0000	0.0000
11	0.0000	0.0000
20	0.0000	0.0000

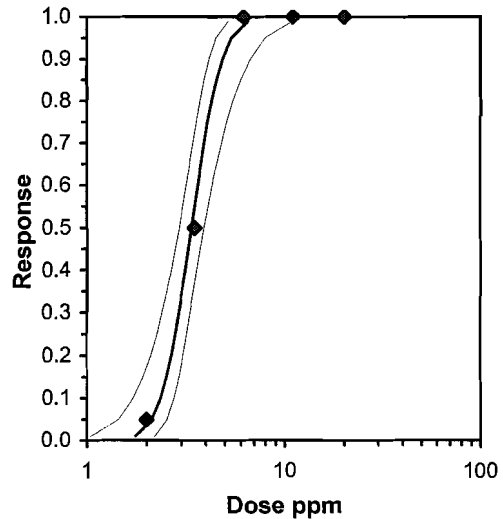
Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
2	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	1	20
3.5	0.5000	0.5000	0.7854	0.6847	0.8861	18.129	2	10	20
6.2	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
11	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
20	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	8.13838	1.7738	4.66174	11.615	0	0.73589	7.81473	0.86	0.52831	0.12287	5
Intercept	0.70039	0.96402	-1.1891	2.58987							
TSCR											

Point	Probits	ppm	95% Fiducial Limits	
EC01	2.674	1.74769	1.04127	2.18943
EC05	3.355	2.11935	1.44251	2.53301
EC10	3.718	2.34878	1.7102	2.7474
EC15	3.964	2.51746	1.91363	2.90934
EC20	4.158	2.66011	2.08806	3.05121
EC25	4.326	2.78892	2.24581	3.18481
EC40	4.747	3.44183	2.66608	3.59072
EC50	5.000	3.37531	2.92317	3.90264
EC60	5.253	3.62013	3.17458	4.28236
EC75	5.674	4.08499	3.57561	5.08884
EC80	5.842	4.28279	3.73117	5.47475
EC85	6.036	4.52548	3.91219	5.97519
EC90	6.282	4.85046	4.14191	6.68737
EC95	6.645	5.37556	4.49155	7.92997
EC99	7.326	6.51872	5.19538	10.9879



Acute Fish Test-96 Hr Survival

Start Date: 6/10/2010 13:00 Test ID: V4DI1001F Sample ID: SAFE KLEEN
 End Date: 6/14/2010 13:15 Lab ID: CBI Sample Type: OIL
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MB-Menidia beryllina
 Comments:

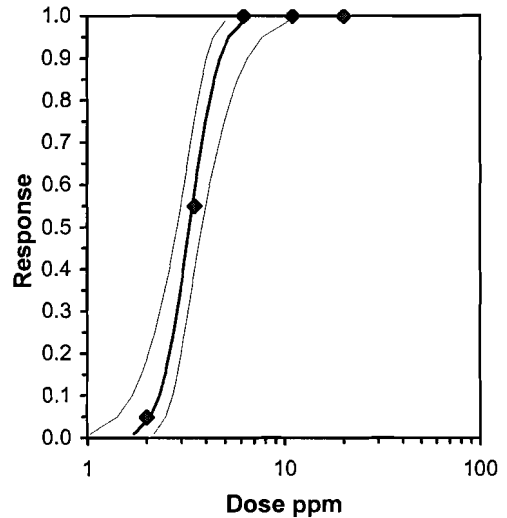
Conc-ppm	1	2
CONTROL	1.0000	1.0000
2	0.9000	1.0000
3.5	0.6000	0.3000
6.2	0.0000	0.0000
11	0.0000	0.0000
20	0.0000	0.0000

Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
2	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	1	20
3.5	0.4500	0.4500	0.7329	0.5796	0.8861	29.567	2	11	20
6.2	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
11	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
20	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Parameter	Value	SE	95% Fiducial Limits		Maximum Likelihood-Probit						
					Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	8.28934	1.82907	4.70436	11.8743	0	0.45002	7.81473	0.93	0.51731	0.12064	5
Intercept	0.71188	0.97377	-1.1967	2.62047							

Point	Probits	ppm	95% Fiducial Limits	
EC01	2.674	1.7245	1.02576	2.15579
EC05	3.355	2.08389	1.41691	2.48638
EC10	3.718	2.30517	1.67731	2.69225
EC15	3.964	2.46759	1.87497	2.84762
EC20	4.158	2.6048	2.0443	2.98366
EC25	4.326	2.72858	2.19731	3.11175
EC40	4.747	3.0672	2.6043	3.50101
EC50	5.000	3.29083	2.85257	3.80047
EC60	5.253	3.53076	3.09464	4.16537
EC75	5.674	3.96893	3.47904	4.94074
EC80	5.842	4.15754	3.62763	5.31166
EC85	6.036	4.38872	3.80024	5.79241
EC90	6.282	4.69794	4.01889	6.47608
EC95	6.645	5.19679	4.35097	7.66751
EC99	7.326	6.27984	5.01743	10.5929



Product +Oil (ppm)	I.D.	D0 Live	D1 Live	D2 Live	D3 Live	D4 Live	Final % Survival
Seawater Control	C-A	10	10	10	10	10	100
	C-B	10	10	10	10	10	
1.1 ppm	1-A	10	10	10	10	10	100
	1-B	10	10	10	10	10	
2.0 ppm	2-A	10	10	9	9	9	80
	2-B	10	10	10	7	7	
3.5 ppm	3-A	10	10	4	2	1	15
	3-B	10	10	2	2	2	
6.2 ppm	4-A	10	0	-	-	-	0
	4-B	10	0	-	-	-	
11 ppm	5-A	10	0	-	-	-	0
	5-B	10	0	-	-	-	
20 ppm	6-A	10	0	-	-	-	0
	6-B	10	0	-	-	-	
35 ppm	7-A	10	0	-	-	-	0
	7-B	10	0	-	-	-	
Initials:		PD	PD	AG	AG	PD	*Test end time
Count Time:		1330	1020	1300	0935	1325	

Oil+Product Test Water Quality

Parameter	Trt I.D.	Day 0	Day 1	Day 2	Day 3	Day 4
Temp. (°C)	C	25	25	25	25	25
	1	25	25	25	25	25
	2	25	25	25	25	25
	3	25	25	25	25	25
	4	25	25	-	-	-
	5	25	25	-	-	-
	6	25	25	-	-	-
pH (S.U.)	C	7.73	7.57	7.58	7.55	7.46
	1	7.74	7.51	7.45	7.41	7.35
	2	7.74	7.55	7.51	7.41	7.43
	3	7.74	7.61	7.41	7.39	7.44
	4	7.74	7.63	-	-	-
	5	7.73	7.69	-	-	-
	6	7.74	7.60	-	-	-
D.O. (mg/l)	C	7.3	5.8	5.8	5.7	5.6
	1	7.3	5.7	5.0	5.1	5.4
	2	7.3	5.6	5.3	5.2	5.2
	3	7.3	5.4	4.5	4.5	4.5
	4	7.3	5.3	-	-	-
	5	7.3	5.5	-	-	-
	6	7.3	5.6	-	-	-
Salin. (g/kg)	C	20		20		20
	1					
	2					
	3			20		20
	4			-	-	-
	5			-	-	-
	6			-	-	-
Replicate Measured:		A	B	A	B	B
Initials:		PD	PD	AG	LA	LB

Acute Fish Test-24 Hr Survival

Start Date: 6/10/2010 13:00 Test ID: V4DI1001G Sample ID: SAFE KLEEN
 End Date: 6/14/2010 13:25 Lab ID: CBI Sample Type: PRODUCT + OIL
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MB-Menidia beryllina

Comments:

Conc-ppm	1	2
CONTROL	1.0000	1.0000
1.1	1.0000	1.0000
2	1.0000	1.0000
3.5	1.0000	1.0000
6.2	0.0000	0.0000
11	0.0000	0.0000
20	0.0000	0.0000
35	0.0000	0.0000

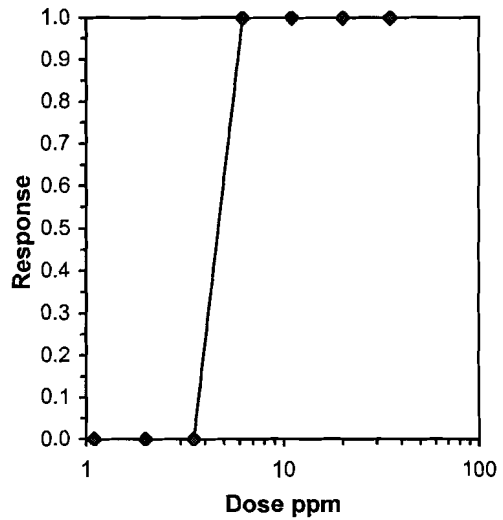
Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
1.1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
3.5	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
6.2	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
11	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
20	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
35	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Graphical Method

Trim Level	EC50
0.0%	4.6583

4.6583



Acute Fish Test-48 Hr Survival

Start Date: 6/10/2010 13:00	Test ID: V4D11001G	Sample ID: SAFE KLEEN
End Date: 6/14/2010 13:25	Lab ID: CBI	Sample Type: PRODUCT + OIL
Sample Date:	Protocol: EPAA 91-EPA Acute	Test Species: MB-Menidia beryllina

Comments:

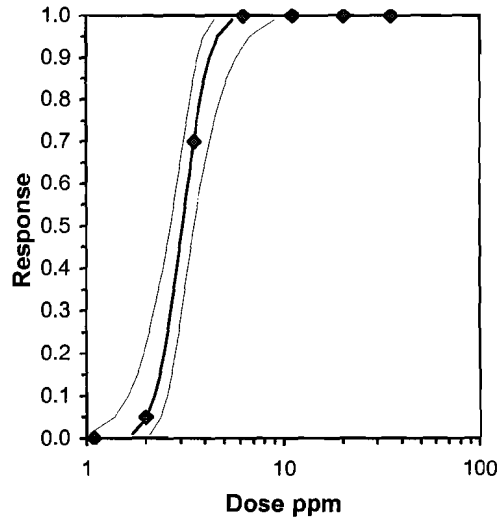
Conc-ppm	1	2
CONTROL	1.0000	1.0000
1.1	1.0000	1.0000
2	0.9000	1.0000
3.5	0.4000	0.2000
6.2	0.0000	0.0000
11	0.0000	0.0000
20	0.0000	0.0000
35	0.0000	0.0000

Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
1.1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
2	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	1	20
3.5	0.3000	0.3000	0.5742	0.4636	0.6847	27.225	2	14	20
6.2	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
11	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
20	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
35	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Parameter	Value	SE	95% Fiducial Limits		Maximum Likelihood-Probit						
			Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter		
Slope	9.1762	2.08842	5.0829	13.2695	0	0.06062	11.0705	1	0.48409	0.10898	3
Intercept	0.55788	1.04602	-1.4923	2.60808							

Point	Probits	ppm	95% Fiducial Limits	
EC01	2.674	1.70048	1.02944	2.09604
EC05	3.355	2.01762	1.38806	2.38247
EC10	3.718	2.2102	1.62261	2.55904
EC15	3.964	2.35041	1.79887	2.69146
EC20	4.158	2.46816	1.94883	2.80686
EC25	4.326	2.57387	2.08364	2.91506
EC40	4.747	2.86076	2.43957	3.24154
EC50	5.000	3.04853	2.65503	3.49085
EC60	5.253	3.24863	2.8636	3.79334
EC75	5.674	3.61073	3.19048	4.43273
EC80	5.842	3.76538	3.31518	4.73693
EC85	6.036	3.95402	3.45891	5.12947
EC90	6.282	4.20486	3.6394	5.68431
EC95	6.645	4.60621	3.91066	6.64221
EC99	7.326	5.46526	4.44675	8.95268



Acute Fish Test-72 Hr Survival

Start Date: 6/10/2010 13:00 Test ID: V4DI1001G Sample ID: SAFE KLEEN
 End Date: 6/14/2010 13:25 Lab ID: CBI Sample Type: PRODUCT + OIL
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MB-Menidia beryllina
 Comments:

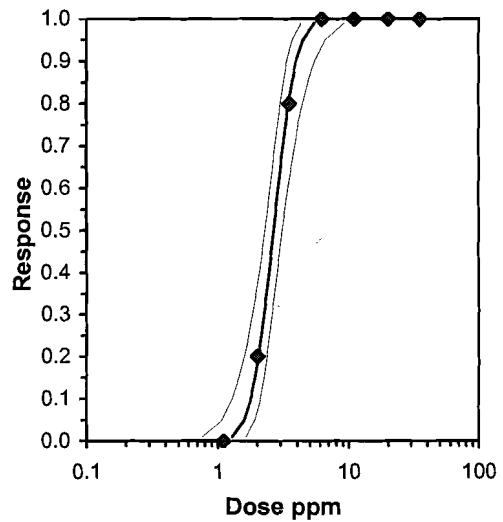
Conc-ppm	1	2
CONTROL	1.0000	1.0000
1.1	1.0000	1.0000
2	0.9000	0.7000
3.5	0.2000	0.2000
6.2	0.0000	0.0000
11	0.0000	0.0000
20	0.0000	0.0000
35	0.0000	0.0000

Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
1.1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
2	0.8000	0.8000	1.1201	0.9912	1.2490	16.280	2	4	20
3.5	0.2000	0.2000	0.4636	0.4636	0.4636	0.000	2	16	20
6.2	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
11	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
20	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
35	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Parameter	Value	SE	95% Fiducial Limits		Maximum Likelihood-Probit						
			Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter		
Slope	7.37981	1.52681	4.38725	10.3724	0	0.17305	11.0705	1	0.42228	0.1355	3
Intercept	1.88367	0.68509	0.54089	3.22645							

Point	Probits	ppm	95% Fiducial Limits	
EC01	2.674	1.27952	0.75442	1.62815
EC05	3.355	1.58268	1.06711	1.91485
EC10	3.718	1.77264	1.27922	2.09524
EC15	3.964	1.91353	1.44213	2.23192
EC20	4.158	2.03345	1.58297	2.35178
EC25	4.326	2.1423	1.7113	2.46462
EC40	4.747	2.44314	2.0582	2.80662
EC50	5.000	2.6441	2.27452	3.06868
EC60	5.253	2.86159	2.4894	3.38781
EC75	5.674	3.26343	2.83847	4.06934
EC80	5.842	3.43812	2.97568	4.39775
EC85	6.036	3.65359	3.13643	4.82577
EC90	6.282	3.94398	3.34196	5.4388
EC95	6.645	4.41737	3.65775	6.51816
EC99	7.326	5.46398	4.30297	9.21742



Acute Fish Test-96 Hr Survival

Start Date: 6/10/2010 13:00 Test ID: V4DI1001G Sample ID: SAFE KLEEN
 End Date: 6/14/2010 13:25 Lab ID: CBI Sample Type: PRODUCT + OIL
 Sample Date: Protocol: EPAA 91-EPA Acute Test Species: MB-Menidia beryllina
 Comments:

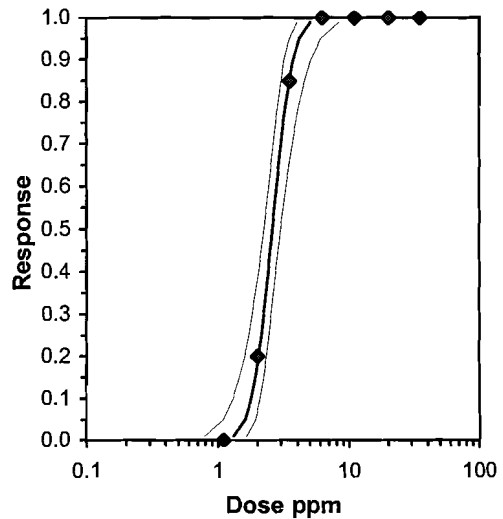
Conc-ppm	1	2
CONTROL	1.0000	1.0000
1.1	1.0000	1.0000
2	0.9000	0.7000
3.5	0.1000	0.2000
6.2	0.0000	0.0000
11	0.0000	0.0000
20	0.0000	0.0000
35	0.0000	0.0000

Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
CONTROL	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
1.1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
2	0.8000	0.8000	1.1201	0.9912	1.2490	16.280	2	4	20
3.5	0.1500	0.1500	0.3927	0.3218	0.4636	25.550	2	17	20
6.2	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
11	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
20	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
35	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Parameter	Value	SE	95% Fiducial Limits	Maximum Likelihood-Probit						
				Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	7.98159	1.69843	4.65267 11.3105	0	0.07292	11.0705	1	0.41027	0.12529	3
Intercept	1.7254	0.7376	0.27971 3.1711							

Point	Probits	ppm	95% Fiducial Limits	
EC01	2.674	1.31463	0.78732	1.65161
EC05	3.355	1.60025	1.09155	1.91753
EC10	3.718	1.77707	1.29477	2.08351
EC15	3.964	1.90729	1.44943	2.20875
EC20	4.158	2.01755	1.58224	2.31828
EC25	4.326	2.11724	1.70259	2.42118
EC40	4.747	2.39071	2.02486	2.73207
EC50	5.000	2.57199	2.22367	2.9694
EC60	5.253	2.76701	2.41947	3.25739
EC75	5.674	3.12446	2.73393	3.8686
EC80	5.842	3.27879	2.85635	4.1613
EC85	6.036	3.46834	2.99898	4.5411
EC90	6.282	3.72248	3.18022	5.08198
EC95	6.645	4.1338	3.4565	6.02641
EC99	7.326	5.03191	4.01415	8.35275



American Petroleum Institute
Department of Environmental Affairs

STANDARD REFERENCE OIL SAMPLE

FUEL OIL NO. 2

* * * * *
* * * * *
* This sample is made available for the sole purpose of providing *
* a reference oil for research and laboratory testing purposes. *
* * * * *
* * * * *

Storage and Handling

Store reference oil samples at a temperature of no more than 20°C,
preferably in a dark area.

Ampuls, 20 mL - open the ampul by snapping off the top at the break area
on the neck.

To retain a portion of the ampul contents, immediately transfer the oil to
a clean, dry glass flask or vial, and seal. Do not use a plastic
container. Non-glass stoppers must contain a Teflon insert to prevent oil
contact with plastic or metal.

Bottles, one-pint - bottles of reference oils are closed with a plastic
screw cap containing a Teflon insert. If bottle is used to store a
portion of the oil contents after opening, be sure that the Teflon insert
remains in the cap.

ASTM Standard Methods for Waterborne Oil Samples

Analyte	ASTM Method*
Specific and API gravity	D1298-80 (Part 23)
Nitrogen, sulfur, nickel and vanadium	D3327-79 (Part 31)
Sulfur compounds, profile	D3328-78 (Part 31)
Simulated distillation profile	D2887-73 (Part 24)
Infrared spectrum	D3414-79 (Part 31)
UV fluorescence spectrum	D3650-78 (Part 31)

ASTM series available from: American Society for Testing and Materials, 1916
Race Street, Philadelphia, PA 19103.

A-200

Fuel Oil No. 2

is oil has been analyzed by skilled oil testing and research laboratories to characterize it and to ensure that substantial compositional changes have not occurred during storage and sample preparation. Results for various selected parameters were as follows:

Analyte	Result
Specific gravity*	0.856 kg/L
API gravity*	33.7 degrees
Sulfur	0.12 weight %
Sulfur compounds, profile	See Fig. 1
Nitrogen	0.009 weight %
Vanadium	0.2 mg/L
Nickel	0.1 mg/L
Simulated distillation profile	See Fig. 2 and Table 1
Infrared spectrum	See Fig. 3
UV fluorescence spectrum	See Fig. 4
Pour point	-20°F
Viscosity,	
at 40°C	2.384
at 100°	1.034
Index	**
Saturates	57.2 weight %
Aromatics	41.8 weight %
Aromatics analyses, weight %:	
Alkylbenzenes	12.1
Naphthenebenzenes	12.1
Dinaphthenebenzene	2.6
Naphthalenes	8.2
Acenaphthenes	3.3
Fluorenes	1.6

Fuel Oil No. 2

Continued

<u>Analyte</u>	<u>Result</u>
Phenanthrenes	1.5
Naphthenephenanthrenes	0
Pyrenes	0.1
Chrysenes	0
Perylenes	0
Dibenzanthracenes	0
Benzothiophenes	0
Dibenzothiophenes	0.1
Naphthabenzothiophenes	0.2
Class II-Class VII Unidentified	0

At 15/15°C

Not calculable when viscosity at 100°C is less than 2.0.

Boiling Range Distribution for
Fuel Oil No. 2

Percent Recovered	Temperature Degrees F	Percent Recovered	Temperature Degrees F	Percent Recovered	Temperature Degrees F
IBP	280	36	477	72	574
1	299	37	480	73	577
2	322	38	482	74	579
3	336	39	485	75	581
4	345	40	487	76	585
5	357	41	489	77	588
6	366	42	491	78	592
7	375	43	494	79	596
8	382	44	497	80	600
9	386	45	501	81	604
10	391	46	504	82	607
11	395	47	507	83	610
12	399	48	510	84	613
13	403	49	513	85	617
14	406	50	516	86	621
15	410	51	519	87	625
16	413	52	521	88	630
17	415	53	523	89	633
18	418	54	524	90	637
19	422	55	527	91	643
20	426	56	530	92	649
21	429	57	532	93	654
22	433	58	534	94	659
23	436	59	537	95	665
24	439	60	539	96	673
25	441	61	541	97	681
26	444	62	544	98	693
27	448	63	546	99	712
28	450	64	548	FBP	729
29	452	65	550		
30	455	66	553		
31	458	67	557		
32	462	68	561		
33	466	69	564		
34	470	70	567		
35	473	71	571		

- initial boiling point; FBP-final boiling point

VYDI

Range - finding test

	pH _i	244 mg/100s L ₁₀₀	244 mg/100s L ₁₀₀	pH _f	DO _f
C	7.71	5	5	7.62	5.9
10 ppb	7.72	5	5	7.64	6.0
100 ppb	7.72	5	5	7.64	6.1
1 ppm	7.72	5	5	7.70	6.4
10 ppm	7.72	5	5	7.64	5.9
100 ppm	7.77	5 look good	5 look good	7.68	5.7
1 ppt	8.34	0	0	8.24	6.0
10 ppt	9.28	0	0	8.94	5.9

set up 1330 6/9/10

$n_i = 5$

10 ppt = 10 ml/L

RANGE FINDING TEST