

Vessel Name

United States of America Department of Homeland Security United States Coast Guard

Certification Date: 06 Dec 2021 Expiration Date: 06 Dec 2026

Service

Certificate of Inspection

For ships on international voyages this certificate fulfills the requirements of SOLAS 74 as amended, regulation V/14, for a SAFE MANNING DOCUMENT.

IMO Number

Call Sign

Official Number

CBC 336			1119685				Tank	Barge
Hailing Port NEW ORLE	ANS, LA	,	Hull Material	Но	rsepower	Propulsion		***************************************
UNITED STA	ATES							
Place Built			Delivery Date	Keel Laid Date	Gross Tons	Net Tons	DWT	Length
			02Apr2002	04Feb2002	R-1619 I-	R-1619 I-		R-297.5 I-0
1801 ENGINI BELLE CHAS UNITED STA	ust be manned	with the fo		180 BE UN and unlicens	NAL BARGE 01 ENGINEER LLE CHASSE ITED STATE ed Personnel	E, LA 70037 S Included in w		must be
0 Certified Lif	eboatmen, 0 Ce	Licensed Ma		Engineers	, and 0 GIVIDS			
0 Chief Mate	s 0	First Class F	Pilots 0 First	Assistant Engine	ers			
0 Second Ma	ites 0	Radio Office	ers 0 Seco	nd Assistant En	gineers			
0 Third Mates	s 0	Able Seame	n 0 Third	Assistant Engin	eers			
0 Master Firs	t Class Pilot 0	Ordinary Sea		sed Engineers				
0 Mate First 0		Deckhands		fied Member En	gineer			
In addition, th Persons allow		arry 0 Pass	engers, 0 Other	r Persons in o	rew, 0 Perso	ns in addition t	o crew, and	no Others. Total
Route Perm	nitted And Cond	ditions Of	Operation:					
Lakes,	Bays, and S	ounds	· -					
(2). If thi vessel must change in st	s vessel is on be inspected that atus occurs.	perated in using salt	n salt water m Hwater interv	ore than six als and the	k (6) months cognizant O	in any twel [,] CMI notified	ve (12) mo: in writin	CFR 31.10-21(a) nth period, the g as soon as this
Inspection F). Inspect	ion activitie	s aboard th:	is barge sha	ll be conduc	ted in acc	reamlined ordance with its ector New Orleans.
SEE NE>	KT PAGE FOR	ADDITIO	NAL CERTIFIC	CATE INFOR	RMATION			
Inspection, Ma	ection for Certifi arine Safety Uni rules and regula	t Port Arthi	ur certified the v	essel, in all re	rthur, TX, UN espects, is in o	ITED STATES	S, the Office the applica	er in Charge, Marine able vessel inspection
laws and the i	Annual/Perio			1	This certificate	e issued by:	11/11/2	16
Date	Zone	A/P/R	Signatu	re		A. Hantal, &DF	Y XI COUR, USCG, B	y direction
3 March 2003	TBSIP	A	Extr. Pekan	ubre 7	Officer in Charge, Ma	rine Inspection Marine Safet	v I Init Port	Δrthur.
					nspection Zone	iviaille Salet	y OTHER OIL	71 (11U)



United States of America Department of Homeland Security United States Coast Guard

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Certificate of Inspection

For ships on international voyages this certificate fulfills the requirements of SOLAS 74 as amended, regulation V/14, for a SAFE MANNING DOCUMENT Vessel Name Official Number **IMO Number** Call Sign Service **CBC 336** 1119685 Tank Barge Hailing Port Hull Material Horsepower NEW ORLEANS, LA Propulsion Steel **UNITED STATES** Place Built **Delivery Date** Keel Laid Date Gross Tons Net Tons DWT Length R-1619 R-1619 02Apr2002 R-297.5 04Feb2002 I-0 Owner Operator CANAL BARGE COMPANY INC CANAL BARGE COMPANY INC 1801 ENGINEERS ROAD 1801 ENGINEERS ROAD BELLE CHASSE, LA 70037 BELLE CHASSE, LA 70037 UNITED STATES **UNITED STATES** This vessel must be manned with the following licensed and unlicensed Personnel. Included in which there must be 0 Certified Lifeboatmen, 0 Certified Tankermen, 0 HSC Type Rating, and 0 GMDSS Operators. 0 Masters 0 Licensed Mates 0 Chief Engineers 0 Oilers 0 Chief Mates 0 First Class Pilots 0 First Assistant Engineers 0 Second Mates 0 Radio Officers 0 Second Assistant Engineers **0 Third Mates** 0 Able Seamen 0 Third Assistant Engineers 0 Master First Class Pilot 0 Ordinary Seamen 0 Licensed Engineers 0 Mate First Class Pilots 0 Deckhands 0 Qualified Member Engineer In addition, this vessel may carry 0 Passengers, 0 Other Persons in crew, 0 Persons in addition to crew, and no Others. Total Persons allowed: 0 Route Permitted And Conditions Of Operation: ---Lakes, Bays, and Sounds---This vessel has been granted a fresh water service examination interval in accordance with 46 CFR 31.10-21(a) If this vessel is operated in salt water more than six (6) months in any twelve (12) month period, the vessel must be inspected using salt water intervals and the cognizant OCMI notified in writing as soon as this change in status occurs. This tank barge is participating in the Eighth and Ninth Coast Guard District's Tank Barge Streamlined Inspection Program (TBSIP). Inspection activities aboard this barge shall be conducted in accordance with its Tank Barge Action Plan. Inspection issues concerning this barge should be directed to OCMI, Sector New Orleans. ***SEE NEXT PAGE FOR ADDITIONAL CERTIFICATE INFORMATION*** With this Inspection for Certification having been completed at Port Arthur, TX, UNITED STATES, the Officer in Charge, Marine Inspection, Marine Safety Unit Port Arthur certified the vessel, in all respects, is in conformity with the applicable vessel inspection laws and the rules and regulations prescribed thereunder. Annual/Periodic/Re-Inspection This certificate issued by Date Zone A/P/R Signature K. A. Hantal, &DR, Officer in Charge, Marine Inspection Marine Safety Unit Port Arthur Inspection Zone



United States of America Department of Homeland Security **United States Coast Guard**

Certification Date: 06 Dec 2021 06 Dec 2026 **Expiration Date:**

Certificate of Inspection

Vessel Name: CBC 336

---Hull Exams---

Exam Type

Next Exam

Last Exam

Prior Exam

DryDock

31Dec2031

06Dec2021

11May2012

Internal Structure

31Dec2026

06Dec2021

23Jan2017

--- Liquid/Gas/Solid Cargo Authority/Conditions ---

Authorization:

FLAMMABLE AND COMBUSTIBLE LIQUIDS

Total Capacity

Units

Highest Grade Type

Part151 Regulated

Part153 Regulated

Part154 Regulated

28706

Barrel

No

No

No

Hazardous Bulk Solids Authority

Not Authorized

Loading Constraints - Structural

Tank	Location Description

Max Cargo Weight per Tank (short tons)

Maximum Density (lbs/gal)

1 P/S

8.40

2 P/S

8.40

3 P/S

8.40

Conditions Of Carriage

When the vessel is carrying cargoes containing greater than 0.5% benzene, the person in charge is responsible for ensuring the provisions of 46 CFR 197, Subpart C, are applied.

Thermal fluid heater and generator set may only be operated when carrying grade "E" cargoes.

The vessel is inspected and approved for the carriage of grade "E" combustible liquids when transported in molten form at elevated temperatures.

Vapor Control Authorization

In accordance with 46 CFR 39, excluding part 39.4000, this vessel's vapor collection system (VCS) has been inspected to the plans approved by Marine Safety Center letter #C1-1201999 dated April 19, 2012, and has been found acceptable for the collection of bulk liquid cargo vapors annotated with "Yes" in the CAA's VCS column.

As per 46 CFR 39.1017 and 39.5000(e), this vessel's VCS has been evaluated and approved for multi-breasted tandem loading with other vessels specifically approved to tandem load with this vessel.

--- Inspection Status ---

Cargo Tanks

	Internal Exam	No. of Street		External Ex	am	
Tank Id	Previous	Last	Next	Previous	Last	Next
1 P/S	11May2012	06Dec2021	31Dec2031			
2 P/S	11May2012	06Dec2021	31Dec2031			
3-P/S	11May2012	06Dec2021	31Dec2031	to talk		
		15 Sept 1	Hydro Test			
Tank Id	Safety Valves		Previous	Last	Next	
1 P/S			=	:: 		



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2 P/S

3 P/S

---Conditional Portable Fire Extinguisher Requirements---

Required Only During Transfer of Cargo or Operation of Barge Machinery

--- Fire Fighting Equipment ---

Fire Extinguishers - Hand portable and semi-portable

Quantity

Class Type

Q GG III

B-II

END



Cargo Authority Attachment

Vessel Name: CBC 336 Official #: 1119685

Shipyard: Trininty Ashland

Serial #: C1-1201999

19-Apr-12

Dated:

Hull #: 4402

Tank Group Characteris	s in Group Density Flammability Grade Prolection Comments A. #2P/S #3P/S R. 7 R.				
Tnk Grp Tanks in Group	Density			Comments	
A #1P/A, #2P/S, #3P/S	8.7	В	Portable	None	

This vessel is approved to collect vapors of the following 46 CFR Subchapter D flammable and/or combustible liquid cargoes using the approved onboard vapor control system.

Subchapter D Cargoes Authorized for Vapor Control

Cargo Identification						Conditions of Carriage				
	77		IMO				ecovery			
Name	Chem Code	Compat Group No	Pollution Category	Grade	Tank Group	App'd (Y or N)	VCS Category			
Acetone	ACT	18 2	III	C	A	Yes	1			
Acetophenone	ACF	-	@D	E	A	Yes	1			
Alcohol(C12-C16) poly(1-6)ethoxylates	APL		A	E	A	Yes	1			
Alcohol(C6-C17)(secondary) poly(7-12)ethoxylates	AEB	-	В	E	A	Yes				
Amyl acetate (all isomers)	AEC		C	D	A	Yes	1			
Amyl alcohol (Iso-, n-, sec-, primary)	AAI	20	D	D	A	Yes	1			
Brake fluid base mixtures (containing Poly(2-8)alkylene(C2-C3) glycols, Polyalkylene(C2-C10) glycol monoalkyl(C1-C4) ethers, and their borate esters)	BFX		D	E	A	Yes	1			
Butyl acetate (all isomers)	BAX	34	C	D	Α	Yes				
Butyl alcohol (iso-)	IAL	20 2	111	D	A	Yes	1			
Butyl alcohol (n-)	BAN		III	D	A	Yes	-1			
Butyl alcohol (sec-)	BAS		111	C	A	Yes	1			
Butyl alcohol (tert-)	BAT		111	C	A	Yes	1			
Butyl toluene	BUE	32	@A	D	A	Yes	1			
Cyclohexane	CHX		C	C	Ä		1			
Cyclohexanol	CHN		D	E		Yes				
1,3-Cyclopentadiene dimer (molten)	CPD		В	D/E	A	Yes	1			
p-Cymene	CMP		C	D		Yes	2			
iso-Decaldehyde	IDA	19	@C	E	Α	Yes	_ 1			
n-Decaldehyde	DAL	. 19	@B	E	Α	Yes	_ 1			
Decene	DCE		В	D	A	Yes	1			
Decyl alcohol (all isomers)	DAX	20 2	В	E	A	Yes	1			
n-Decylbenzene, see Alkyl(C9+)cenzenes	DBZ	32	III		Α	Yes	_1			
Diacetone alcohol	DAA	20 2	D	E	A	Yes	1			
Diethylbenzene	DEB	32		D	Α	Yes	1			
Dilsobutylene	DBL	30	A B		Α	Yes	_1			
Dilsobutyl ketone	DIK	18	D	С	A	Yes	1			
Dijsopropylbenzene (all Isomers)	DIX	32	111	D	Α .	Yes	1			
Dioctyl phthalate	DOP	34	A	E	Α .	Yes	1			
Dipentene	DOP	30	C	E D	A	Yes	1			
Dipheny	DIL	32	A		A	Yes	1			
Dipropylene glycol	DPG	40		D/E	A	Yes	1			
Distillates: Flashed feed stocks	- 0.00	33	111	E	A	Yes	- 1			
Distillates: Straight run	DFF	7.0		E	Α	Yes	4			
Dodecene (all isomers)	DSR	33		E	Α	Yes	1			
Dodecylbenzene, see Alkyl(C9+)tenzenes	DOZ	30	В	D	Α.	Yes	. 1			
2-Ethoxyethyl acetate	DDB	32	101	E	Α	Yes	1			
A SILLEN, FILIP, GOVIMIN	EEA	34	С	D	Α	Yes	1			

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C1-1201999

19-Apr-12

Hull #: 4402

Cargo Identification					Conditions of Carr				
Name	Chem	Compat Group No	IMO Pollution Category	Grade	Tank Group		Recovery VCS		
Ethoxy triglycol (crude)	ETG	40	D	E	A	Yes	1		
Ethyl acetate	ETA	34	D	С	A	Yes	1		
Ethyl alcohol	EAL	20 ²	111	С	A	Yes	1		
Ethylbenzene	ETB	32	В	С	A	Yes	1		
Ethyl butanol	EBT	20	@D	D	Α	Yes	1		
Ethyl tert-butyl ether	EBE	41	C	С	A	Yes	1		
Ethyl butyrate	EBR	34	С	D	A	Yes	1		
thyl cyclohexane	ECY	31	C	D	Α	Yes	1		
Ethylene glycol butyl ether acetate	EMA	34	С	E	A	Yes	1		
Ethylene glycol phenyl ether	EPE	40	D	E	A	Yes	1		
Ethyl-3-ethoxypropionate	EEP	34	C	D	A	Yes	1		
2-Ethylhexanol	EHX	20	@C	E	A	Yes	1		
thyl proplonate	EPR	34	D	С	A	Yes	1		
Ethyl toluene	ETE	32	В	D	A	Yes	1		
Gasoline blending stocks: Alkylates	GAK	33	1	A/C	A	Yes	1		
Gasoline blending stocks: Reformates	GRF	33	1	A/C	A	Yes	1		
Gasolines: Automotive (containing not over 4.23 grams lead per gallon)	GAT	33	Sp.	C	A	Yes	1		
Gasolines: Aviation (containing not over 4.86 grams of lead per gallon)	GAV	33	1	C	A	Yes	1		
Gasolines: Casinghead (natural)	GCS	33	1	A/C	A				
Gasolines: Polymer	GPL	33	1	A/C	A	Yes	1		
Gasolines: Straight run	GSR	33	1	A/C		Yes	1		
leptane (all Isomers), see Alkanes (C6-C9) (all Isomers)	HMX	31	С		A	Yes	_1_		
leptanoic acid	HEP	4	D	C	A	Yes	1		
leptanol (all Isomers)	HTX	20	C	D/E	A	Yes	1		
leptene (all Isomers)	HPX	30	C	-	A	Yes	1		
leptyl acetate	HPE	34	В	C	A	Yes	2		
lexane (all isomers), see Alkanes (C6-C9)	HXS	31 2	C	E	Α	Yes	1		
lexanoic acid	HXO	4	D	B/C	A	Yes	1_		
lexanol	HXN	20	D	E	A	Yes	1		
dexene (all isomers)	HEX	30	C	D	Α	Yes	1		
lexylene glycol				C	Α	Yes	2		
sophorone	HXG	20 18 ²	HI	E	Α	Yes	1		
et fuel: JP-4	IPH IPE		D .	E	A	Yes	1		
et fuel: JP-5 (kerosene, heavy)	JPF	33		E	A	Yes	1		
Gerosene	JPV	33	-	D	Α	Yes	1		
Methyl acetate	KRS	33	1	D	Α	Yes	1		
Methyl alcohol	MTT	34	III	D	A	Yes	1		
Methylamyl acetate	MAL	20 2	D	C	Α	Yes	11		
flethylamyl alcohol	MAC	34	С	D	A	Yes	1_		
lethyl amyl ketone	MAA	20	С	D	Α	Yes	1		
lethyl tert-butyl ether	MAK	18	D	D	Α	Yes	1		
lethyl butyl ketone	MBE	41 2	D	С	Α	Yes	1		
lethyl butyrate	MBK	18	D	C	A	Yes	1		
The second secon	MBU	34	С	С	Α	Yes	1		
lethyl ethyl ketone lethyl heptyl ketone	MEK	18 ²	111	С	Α	Yes	1		
	MHK	18	В	D	Α	Yes	1		
lethyl Isobutyl ketone	MIK	18 ²	D	С	Α	Yes	1		
Methyl naphthalene (molten)	MNA	32	Α	E	A	Yes	1		
fineral spirits	MNS	33	1	D	A	Yes	1		

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Hull #: 4402

Cargo Identification					Conditi	ons of	Carria
Name	Chem Code	Compat Group No	IMO Pollution Category	Grade	Tank Group		Recovery VCS Categor
Myrcene	MRE	30	D	D	A	Yes	-
Naphtha: Heavy	NAG	33	@1	#	A	Yes	1
Naphtha: Petroleum	PTN	33	i	#	Α	Yes	1
Naphtha; Solvent	NSV	33	@	D	A	Yes	1
Naphtha: Stoddard solvent	NSS	33	@1	D	A	Yes	1
Naphtha: Varnish makers and painters (75%)	NVM	33	@1	С	A	Yes	1
Nonane (all Isomers), see Alkanes (C6-C9)	NAX	31	C	D	A	Yes	1
Nonene (all isomers)	NON	30	В	D	A	Yes	2
Nonyl alcohol (all isomers)	NNS	20 ²	С	E	A	Yes	1
Nonyl phenol	NNP	21	A	E	A	Yes	
Nonyl phenol poly(4+)ethoxylates	NPE	40	В	E	A		1
Octane (all isomers), see Alkanes (C6-C9)	OAX	31	C	C	A	Yes	1
Octanoic acid (all isomers)	OAY	4	D	E	A	Yes	1
Octanol (all isomers)	OCX	20 2	C	E	A	Yes	1
Octene (all isomers)	OTX	30	В	C	A	Yes	2
Oll, fuel; No. 2	OTW	33	1	D/E	A	Yes	1
Oil, fuel: No. 2-D	OTD	33	1	D	A	Yes	1
Oil, fuel: No. 4	OFR	33	1	D/E	A		
Oll, fuel: No. 5	OFV	33	1	D/E	A	Yes	1
Oil, fuel; No. 6	OSX	33	1	E	A	Yes	1
Oll, misc; Crude	OIL	33	1	C/D		Yes	1
Oil, misc: Diesel	ODS	33	AL.		A	Yes	1
Oll, misc: Gas, high pour	OGP	33	3	D/E	A	Yes	1
Oll, misc: Lubricating	OLB	33	@	E	A	Yes	1
Oll, misc: Residual	ORL	33			A	Yes	_1_
Oil, misc; Turbine	OTB	33		E	A	Yes	1
n-Pentyl propionate	PPE	34	0		Α	Yes	1
alpha-Pinene	- Control	Tables .	C	D	A	Yes	1_
peta-Pinene	PIO	30	A	D	A	Yes	_1_
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	PIP	30	В	D	A	Yes	1
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate	PAG	40	D	E	A	Yes	1
Polybutene	PAF	34	D	E	Α	Yes	1
Polypropylene glycol	PLB	30	111	E	Α	Yes	1
so-Propyl acetate	PGC	40	D	E	Α	Yes	1
-Propyl acetate	IAC	34	HI	C	A	Yes	1
so-Propyl alcohol	PAT	34	D	C	Α	Yes	1
-Propyl alcohol	IPA	20 2	111	C	A	Yes	1
Propylbenzene (all isomers)	PAL	20 2	111	C	A	Yes	1
so-Propylcyclohexane	PBY	32	A	D	A	Yes	1
Propylene glycol	IPX	31	C	D	Α	Yes	1
ropylene glycol methyl ether acetate	PPG	20 ²	HI	E	Α	Yes	1
ropylene tetramer	PGN	34	D	D	A	Yes	1
ulfolane	РП	30	В	D	Α	Yes	1
etrahydronaphthalene	SFL	39	D	E	Α	Yes	1
oluene	THN	32	C	E	A	Yes	1
	TOL	32	С	С	Α	Yes	1
ricresyl phosphate (less than 1% of the ortho isomer)	TCP	34	Α	E	Α	Yes	1
riethylbenzene	TEB	32	Α	E	A	Yes	1
rimethylbenzene (all isomers)	TRE	32	Α	(D)	Α	Yes	1

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Cargo Identification					Condition	ons of	Carriag
		100	IMO Pollution Category			Vapor F	Recovery
Name	Chem Code	Compat Group No			Tank Group	App'd (Y or N)	VCS Category
Trixylenyl phosphate	TRP	34	A	F	A	Yes	4
Jndecene	ODC	30	В	D/E	A	Yes	1
I-Undecyl alcohol	UND	20	В	E	Α	Yes	1
(ylenes (ortho-, meta-, para-)	XLX	32	С	D	Α	Yes	1



Department of Homeland Security **United States Coast Guard**

Dated:

C1-1201999 19-Apr-12

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Explanation of terms & symbols used in the Table:

Cargo Identification

The proper shipping name as listed in 46 CFR Table 30.25-1, 46 CFR Table 151.05, and 46 CFR Part 153 Table 2.

Chem Code

The three letter designation assigned to the cargo in the Chemical Hazards Response Information System (CHRIS) Manual. Certain mixtures of cargoes may not have a CHRIS Code assigned.

Compatability Group No.

The cargo reactive group number assigned for compatibility determinations in 46 CFR Part 150 Tables I and II. In accordance with 46 CFR 150.130, the Person-In-Charge of the barge is responsible for ensuring that the compatibility requirements of 46 CFR Part 150 are met. Cargoes must be checked for compatibility using the figures, tables, Because of the very high reactivity or unusual conditions of carriage or potential compatibility problems, this product is not assigned to a specific group in the Compatibility (202) 287-1217.

Note 2

See Appendix I to 46 CFR Part 150 - exceptions to the compatability chart

Subchapter

Subchapter D Subchapter O Note 3

The subchapter in Title 46 Code of Federal Regulations under which the cargo has been classified.

Those flammable and combustible liquids listed in 46 CFR Table 30.25-1.

Those hazardous cargoes listed in 46 CFR Table 151,05 and 46 CFR Part 153 Table 2.

Those cargoes listed in 46 CFR Part 153 Table 2 are non-regulated cargoes when carried in bulk on non-oceangoing barges.

Grade

The cargo classification assigned to each flammable or combustible liquid. Grades inside of "{ }" indicate a provisional assignment based upon literature sources which were not verified by manufacturers data. The Person-in-Charge shall verify the cargo grade based on Manufacturers data and ensure that the barge is authorized for carriage of

A, B, C D, E Note 4 NA

Flammable liquid cargoes, as defined in 46 CFR 30-10.22

Flammable liquid cargoes, as defined in 46 CFR 30-10.22.

Combustible liquid cargoes, as defined in 46 CFR 30-10.15.

The flammability/combustibility grade of these cargoes may vary depending upon the flashpoint and Reid vapor pressure. The Person-in-Charge shall verify the cargo grade based on Manufacturers data and ensure that the barge is authorized for carriage of that grade of cargo.

Those subchapter O cargoes which are not classified as a flammable or combustible liquid.

No flammability/combustibility grade has been assigned yet, as the necessary flash point/vapor pressure data for such assignments are presently not available.

Hull Type

The required barge hull classification for carriage of the specified Subchapter O hazardous material cargo, see 46 CFR 151.10-1.

Designed to carry products which require the maximum preventive measures to preclude the uncontrolled release of the cargo. See 46 CFR 151.10-1(b)(1).

Designed to carry products which require significant preventive measures to preclude the uncontrolled release of cargo. See 46 CFR 151.10-1(b)(3).

Designed to carry products of sufficeint hazard to require a moderate degree of control. See 46 CFR 151.10-1(b)(4).

Not applicable to barges certificated under Subchapter D.

Conditions of Carriage

Tank Group Vapor Recover Approved (Y or N)

The vessel's tank group (as defined under the "46 CFR Tank Group Characteristics" listed on page 1) which is authorized for carriage of the named cargo.

Yes: The vessel's VCS has been reviewed and approved by the MSC to control vapors of the specified cargo. No: The vessel's VCS has been reviewed and is not approved by the MSC to control vapors of the specified cargo.

VCS Category:

The specified cargo's provisional classification for vapor control systems.

Category 1

(No additional VCS requirements above those for benzene, gasolines and crude oil) All requirements applying to the handling of oil and hazardous materials in Titles 33 and 46 Code of Federal Regulations (CFR) apply to these cargoes. Those specifically dealing with vapor control systems are in 33 CFR 155.750, 33 CFR 156.120, 33 CFR 156.170, 46 CFR 35.35 and 46 CFR 39. The cargo tank venting system calculations (46 CFR 39.20-11) and the pressure drop calculations (46 CFR 39.30-1(b)) must use appropriate friction factors, vapor densities and vapor growth rates.

Category 2

(Polymerizes) Polymerization and residue build-up of these cargoes can adversely affect the vessel by fouling safety components and restricting vapor flow which could lead to cargo tank overpressurization. The vessel's owner must develop a method of ensuring all VCS safety components are functional and polymer build-up is not causing an unsafe condition due to increased pressure in the vapor control piping and cargo tanks. The method shall be acceptable to the local Officer in Charge, Inspection. This is in addition to the requirements of Category 1. Please note that a material not normally considered a monomer can be a problem in detonation arrester.

Category 3

(Highly toxic) VCSs for these toxic cargoes cannot use a spill valve or rupture disk as the primary means to meet the overfill protection requirement of 46 CFR 39.20-9. This requirement is in addition to the requirements of Category 1.

Category 4

(Polymerizes and highly toxic) Must comply with requirements of Categories 1, 2 and 3

Category 5

(High vapor pressure) VCS pressure drop calculations for cargoes with a vapor pressure greater than 14.7 psia at 115 F must take into account increased vapor-air mixture densities and vapor growth rates as compared to Category 1 cargoes. Consult the Marine Safety Center's VCS Guidelines for further information. This requirement is in addition to the requirements of Category 1.

Category 6 Category 7

(High vapor pressure and highly toxic) Must comply with requirements of Categories 1, 3 and 5. (High vapor pressure and polymerizes) Must comply with requirements of Categories 1, 2 and 5.

The cargo has not been evaluated/classified for use in vapor control systems.