

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

Certification Date: 18 May 2020 Expiration Date: 18 May 2025

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

Vessel Name		Official Number	r i	MO Number	Call Sign	Service	
KIRBY 31005B		1252829					
Hailing Port							
HOUMA, LA		Hull Me		Horsepower	Propulsion		
		Stee	əl				
UNITED STATES				10			
Place Built		Delivery Da	ate Keel Laid ()ste Gross Tons	Net Tone	DWT	Length
PALACIOS, TX				P.4610	R-1619		R-297.8
		18May	2015 14Jan2	U10 F	F		ю
UNITED STATES							
Owner				Operator			
KIRBY INLAND MAR 55 WAUGH DR STE				18350 MARKE	D MARINE, LP		
HOUSTON, TX 7700				CHANNELVIE			
UNITED STATES				UNITED STAT			
This vessel must be n 0 Certified Lifeboatm						hich there mu	st be
0 Masters			Chief Engineers		Oilers		
0 Chief Mates) First Assistant E		Chers		
0 Second Mates) Second Assista	-			
0 Third Mates) Third Assistant	-			
0 Master First Class Pi	_		Licensed Engine	-			
0 Mate First Class Pilo			Qualified Memb				
In addition, this vesse Persons allowed: 0	l may carry 0) Passengers, 0	Other Person	s in crew, 0 Pers	sons in addition to	crew, and no	Others. Total
Route Permitted Ar	nd Condition	s Of Operation	:	****			
Lakes, Bays,							
LIMITED COASTWISE S VISIBILITY, NOT MOF							
THIS VESSEL HAS BEE 21(b); IF THIS VESS VESSEL MUST BE INSE	EL IS OPERA ECTED USING	ATED IN SALT WA S SALT WATER IN	ATER MORE THA	N SIX (6) MON 46 CFR TABLE :	THS IN ANY TWEL	VE (12) MON3	TH PERIOD, THE
NOTIFIED IN WRITING							
THIS TANK BARGE IS						GE STREAMLIN	APD INSECTION
***SEE NEXT PAG							
With this Inspection for Inspection, Houma, Le the rules and regulation	ouisiana certi	ified the vessel, i	ompleted at H in all respects,	ouma, LA, UNH is in conformity	With the applicat	e Officer in Cl de vessel insp	narge, Marine pection laws and
		Re-Inspection		This certific	atte issued by:	1	
Date Z	one A	/P/R Sig	inature] M.M	SPOLABICH, O	DR USCG, E	By Direction
4 A-AI GREENV	ICMS 1	9 JEMY T	ILCHELL	Officer In Charge,	Marine Inspection		
4.18-32 BOTH	yur det t	Prion,	Berry	4	Houma,	Louisiana	
ry and Nold		+ Il happh	1 Arth	Inspection Zone			
1/23/24 1001	# 1/	T DTGMM	6/6hs				



United States of America Department of Homeland Security United States Coast Guard Certification Date: 18 May 2020 Expiration Date: 18 May 2025

Certificate of Inspection

Vessel Name: KIRBY 31005B

PROGRAM (TBSIP). INSPECTION ACTIVITIES ABOARD THIS BARGE SHALL BE CONDUCTED IN ACCORDANCE WITH ITS TANK BARGE ACTION PLAN (TAP). INSPECTION ISSUES CONCERNING THIS BARGE SHOULD BE DIRECTED TO THE OCMI HOUSTON/GALVESTON, TEXAS. ---Hull Exams----Exam Type Next Exam Last Exam Prior Exam DryDock 31May2025 18May2015 Internal Structure 31May2025 17Jun2020 18May2015 --- Liquid/Gas/Solid Cargo Authority/Conditions ---

Authorization: Grade "A" and lower and specified cargoes.

Total Capacity	Units	Highest Grade Type	Part151 Regulated	Part153 Regulated	Part154 Regulated
31261	Barrels	А	Yes	No	No

Hazardous Bulk Solids Authority

Not Authorized

Loading Constraints - Structural

Tank Number	Max Cargo Weight per Tank (short tons)	Maximum Density (lbs/gal)
1P	825	1.63
1S	825	1.63
2P	828	1.63
2S	828	1.63
3P	776	1.63
35	776	1.63

Loading Constraints - Stability

Hull Type	Maximum Load (short tons)	Maximum Draft (ft/in)	Max Density (lbs/gal)	Route Description
П	4249	10ft 3in	13.6	LBS, LC
П	4249	10ft 3in	13.6	R
ш	4627	11ft 0in	13.6	LBS, LC
ш	4627	11ft 0in	13.6	R

Conditions Of Carriage

ONLY THOSE CARGOES NAMED IN THE VESSEL'S CARGO AUTHORITY ATTACHMENT, SERIAL #CI-1401818 DATED 28 MAY 2014, MAY BE CARRIED AND THEN ONLY IN THE TANKS INDICATED.

PER 46 CFR 150.130, THE PERSON IN CHARGE OF THE BARGE IS RESPONSIBLE FOR ENSURING THAT THE COMPATIBILITY REQUIREMENTS OF 46 CFR 150 ARE MET. CARGOES MUST BE CHECKED FOR COMPATIBILITY USING THE FIGURES, TABLES, AND APPENDICES OF 46 CFR 150 IN CONJUNCTION WITH THE COMPATABILITY GROUP NUMBERS FROM THE "COMPAT GRP" COLUMN LISTED ABOVE IN THE "SPECIFIED HAZARDOUS CARGO AUTHORITY" SECTION.

WHEN THE VESSEL IS CARRYING CARGOES CONTAINING GREATER THAN 0.5% BENZENE, THE PERSON IN CHARGE IS RESPONSIBLE FOR ENSURING THE PROVISIONS OF 46 U.S. CODE OF FEDERAL REGUALTIONS PART 197, SUBPART C ARE APPLIED.



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Certificate of Inspection

Vessel Name: KIRBY 31005B

THE MAXIMUM DESIGN DENSITY OF CARGO WHICH MAY BE FILLED TO THE TANK TOP IS 13.6 LBS/GAL.

IN ACCORDANCE WITH 46 CFR PART 39, EXCLUDING PART 39.4000, THIS VESSEL'S VAPOR CONTROL SYSTEM HAS BEEN INSPECTED TO THE PLANS APPROVED BY MARINE SAFETY CENTER LETTERS SERIAL #CI-1401818 DATED 28 MAY 2014, AND FOUND ACCEPTABLE FOR COLLECTION OF BULK LIQUID CARGO VAPORS ANNOTATED WITH "YES" IN THE CAA'S VCS COLUMN.

IN ACCORDANCE WITH 46 CFR PART 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 VESSEL.

--- Inspection Status ---

Cargo Tanks

	Internal Exam			External Exam	1	
Tank Id	Previous	Last	Next	Previous	Last	Next
1P	-	18May2015	31May2025	-	-	-
1S	-	18May2015	31May2025	-	-	-
2P	-	18May2015	31May2025	-	-	-
2S	-	18May2015	31May2025	-	-	-
3P	-	18May2015	31May2025	-	-	-
3S	-	18May2015	31May2025	-	-	-
			Hydro Test			
Tank Id	Safety Valves		Previous	Last	Next	
1P			-	-	-	
1S	-		-	-	-	
2P	-		-	-	-	
2S	-		-	-	-	
3P	-		-	-	-	
3S	-		-	-	-	

---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
2	40-B

END



Certificate of Inspection Cargo Authority Attachment

Vessel Name: CTCO 356B

Official #: 1252829

Shipyard: TRES PALACIOS MARINE

Hull #: 157

Tank Group Information	Cargo I	dentificali	ion				Tanks		Carg Tran		Environ Control	mental	Special Requirements				
Tnk Grp Tanks in Group	Densily	Press,	Temp.	Hull	Cargo Seg Tank	Турө	Vent	Gauge	Pipe Class	Cont	Tanks	Handling Space	Protection Provided	General	Materials of Construction		Temp Cont
A #1P/S, #2P/S, #3P/S	13.6	Atmos.	Amb.	П	111 211	Integral Gravity	PV	Closed	11	G-1	NR	NA	Portable	50-60, .50-70(a), 50-70(b), .50-73,	55-1(b), (c), (e), (f), (j), 56-1(a), (b), (c), (d), (e), (f), (g),	NR	No

Notes: 1. Under Environmental Control, Tanks, NR means that the lank group is suitable only for those cargoes which require no environmental control in the cargo tanks.

2. Under Environmental Control, Handling Space, NR means that the tank group is suitable only for those cargoes which require no environmental control in the cargo handling space. NA means that the vessel does not have a cargo control space, and this requirement is not applied.

3. Under Electrical Hazard Class, NA means that the tank group is suitable only for those cargoes which have no electrical hazard class requirement. NR means that the vessel has no electrical equipment located in a hazardous location.

List of Authorized Cargoes

Cargo Identificatio	n					Conditions of Carriage						
							Vapor Recovery					
Name	Chern Code	Compal Group No	Sub Chapter	Grade	Hull Type	Tank Group	App'd (Y or N)	VCS Category	Special Requirements in 46 CFR 151 General and Mat'ls of	Insp. Period		
Authorized Subchapter O Cargoes												
Acetonitrile	ATN	37	0	С	ш	А	Yes	3	No	G		
Acrylonitrile	ACN	15 ²	0	С	н	А	Yes	4	50-70(a), 55-1(e)	G		
Adiponitrile	ADN	37	0	Е	11	А	Yes	1	No	G		
Alkyl(C7-C9) nitrates	AKN	34 ²	0	NA	111	А	No	N/A	.50-81, .50-86	G		
Aminoethylethanolamine	AEE	8	0	E	10	A	Yes	1	.55-1(b)	G		
Ammonium bisulfite solution (70% or less)	ABX	43 ²	0	NA	111	A	No	N/A	50-73, 56-1(a), (b), (c)	G		
Ammonium hydroxide (28% or less NH3)	AMH	6	0	NA	111	А	No	N/A	,56-1(a), (b), (c), (f), (g)	G		
Anthracene oil (Coal tar fraction)	AHO	33	0	NA	П	А	No	N/A	No	G		
Benzene	BNZ	32	0	С	111	A	Yes	1	50-60	G		
Benzene or hydrocarbon mixtures (having 10% Benzene or more)	BHB	32 ²	0	С	Ш	А	Yes	1	50-60	G		
Benzene or hydrocarbon mixtures (containing Acetylene and 10% Benzene or more)	ВНА	32 ²	0	С	111	А	Yes	1	_50-60, _56-1(b), (d), (f), (g)	G		
Benzene, Toluene, Xylene mixtures (10% Benzene or more)	BTX	32	0	B/C	ut	Δ	Yee	1	.50-60	Ģ		
Butyl acrylate (all isomers)	BAR	14	0	D	Ш	A	Yes	2	50-70(a), 50-81(a), (b)	G		
Butyl methacrylate	BMH	14	0	D	- 111	А	Yes	2	50-70(a), 50-81(a), (b)	G		
Butyraldehyde (all isomers)	BAE	19	0	С	Ш	А	Yes	1	.55-1(h)	G		
Camphor oil (light)	CPO	18	0	D	П	А	No	N/A	No	G		
Carbon tetrachloride	CBT	36	0	NA	10	А	No	N/A	No	G		
Caustic potash solution	CPS	5 ²	0	NA	Ш	А	No	N/A	.50-73, .55-1(j)	G		
Caustic soda solution	CSS	5 ²	0	ΝA	111	А	No	N/A	50-73, 55-1(j)	G		
Chemical Oil (refined, containing phenolics)	COD	21	0	Е	11	A	No	N/A	50-73	G		
Chlorobenzene	CRB	36	0	D	Ш	A	Yes	1	No	G		
Chloroform	CRF	36	0	NA	111	A	Yes	3	No	G		
Coal tar naphtha solvent	NCT	33	0	D	Ш	А	Yes	1	.50-73	G		
Creosote	CCW	21 ²	0	Е	IN	А	Yes	1	No	G		
Cresols (all isomers)	CRS	21	0	E	111	A	Yes	1	No	G		
Cresylate spent caustic	CSC	5	0	NA	CII	A	No	N/A	.50-73, .55-1(b)	G		
Cresylic acid tar	CRX	21	0	Е	ш	А	Yes	1	.55-1(f)	G		
Crotonaldehyde	CTA	19 ²	0	С	П	A	Yes	4	.55-1(h)	G		
Crude hydrocarbon feedstock (containing Butyraldehydes and thylpropyl acrolein)	CHG		0	С	HI	A	Yes	1	No	G		
Cyclohexanone	ССН	18	0	D	Ш	А	Yes	1	"56-1(a), (b)	G		
Cyclohexanone, Cyclohexanol mixture	CYX	18 ²	0	Е	Ш	А	Yes	1	"56-1 (b)	G		
Cyclohexylamine	CHA	7	0	D	III	A	Yes	1	.56-1(a), (b), (c), (g)	G		



Serial #: C1-1401818 Dated: 28-May-14

MARINE

Certificate of Inspection Cargo Authority Attachment

Vessel Name: CTCO 356B Official #: 1252829

Shipyard: TRES PALACIOS Hull #: 157

Course Islandiff a dia	010					() ()				
Cargo Identificatio	n		1						tions of Carriage	
Name Cyclopentadiene, Styrene, Benzene mixture	Chem Code CSB	Compat Group No 30	Sub Chapter O	Grade D	Hull Type III	Tank Group A	Vapor Ro App'd (Y or N) Yes	VCS	Special Requirements in 46 CFR 151 General and Mat'ls of 50-60, 56-1(b)	Insp. Period G
iso-Decyl acrylate	IVI	14	0	E	111	A	Yea	2	50-70(a), 50-81(a), (b), 55-1(c)	G
Dichlorobenzene (all isomers)	DBX	36	0	E	10	A	Yes	3	.56-1(a), (b)	G
1,1-Dichloroethane	DCH	36	0	С	10	A	Yes	1	No	G
2,2'-Dichloroethyl ether	DEE	41	0	D		A	Yes	1	.55-1(f)	G
Dichloromethane	DCM	36	0	NA	11	A	Yes	5	No	G
2,4-Dichlorophenoxyacetic acid, diethanolamine salt solution	DDE	43	0	E	111	A	No	N/A	.56-1(a), (b), (c), (g)	G
2,4-Dichlorophenoxyacetic acid, dimethylamine salt solution	DAD	0 1,2		A	III	A	No	N/A	.56-1(a), (b), (c), (g)	G
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution	DTI	43 ²	0	E		A	No	N/A	.56-1(a), (b), (c), (g)	G
1,1-Dichloropropane	DPB	36	0	С	111	A	Yes	3	No	G
1,2-Dichloropropane	DPP	36	0	c	111	A	Yes	3	No	G
1,3-Dichloropropane	DPC	36	0	c	111	A	Yes	3	No	G
1,3-Dichloropropene	DPU	15	õ	D	ü	A	Yes	4	No	G
Dichloropropene, Dichloropropane mixtures	DMX	15	ŏ	С		A	Yes	1	No	G
Diethanolamine	DEA	8	0	E	111	A	Yes	1	,55-1(c)	G
Diethylamine	DEN	7	0	C	10	A	Yes	3	.55-1(c)	G
Diethylenetriamine	DET	72	0	E	111	A	Yes	1	:55-1(c)	G
	DBU	7	0	D	111	A	Yes	3	55-1(c)	G
Diisobutylamine	DIP	8	0	E	- HI	A	Yes	1	.55-1(c)	G
Diisopropanolamine	DIA	7	0	C		A	Yes	3	.55-1(c)	G
Diisopropylamine	DAC	10	0	E	10	A	Yes	3	_56-1(b)	G
N,N-Dimethylacetamide	DAC	8	0	 D	10	A			_56-1(b), (c)	G
Dimethylethanolamine							Yes	1	55-1(e)	G
Dimethylformamide	DMF	10	0	D	III III	A	Yes	1	55-1(c)	G
Di-n-propylamine	DNA	7	0	C	11	A	Yes	3	56-1(b)	G
Dodecyldimethylamine, Tetradecyldimethylamine mixture	DOT	7		E		A	No	N/A	No	G
Dodecyl diphenyl ether disulfonate solution	DOS	43	0	#		A	No	N/A	No	G
EE Glycol Ether Mixture	EEG	40	0	D	111	A	No	N/A		
Ethanolamine	MEA	8	0	E	111	A	Yes	1	.55-1(c)	G
Ethyl acrylate	EAC	14	0	С	Ш	A	Yes	2	150-70(a), 150-81(a), (b)	G
Ethylamine solution (72% or less)	EAN	7	0	A	11	A	No	N/A	.55-1(b)	G
N-Ethylbutylamine	EBA	7	0	D	111	A	Yes	3	.55-1(b)	G
N-Ethylcyclohexylamine	ECC	7	0	D		A	Yes	1	.55-1(b)	G
Ethylene cyanohydrin	ETC	20	0	E		A	Yes	1	No	G
Ethylenediamine	EDA	7 2	0	Ď	111	A	Yes	1	55-1(c)	G
Ethylene dichloride	EDC	36 2	0	С	111	A	Yes	1	No	G
Ethylene glycol hexyl ether	EGH	40	0	E	HI	A	No	N/A	No	G
Ethylene glycol monoalkyl ethers	EGC	40	0	D/E	111	A	Yes	1	No	G
Ethylene glycol propyl ether	EGP	40	0	E	IN	А	Yes	1	No	G
2-Ethylhexyl acrylate	EAI	14	0	E	111	A	Yes	2	.50-70(a), .50-81(a), (b)	G
Ethyl methacrylate	ETM	14	0	D/E	Ш	Α	Yes	2	50-70(a)	G
2-Ethyl-3-propylacrolein	EPA	19 ²	0	E	Ш	А	Yes	1	No	G
Formaldehyde solution (37% to 50%)	FMS	19 ²	0	D/E	ID.	А	Yes	1	.55-1(h)	G
Furfural	FFA	19	0	D	111	А	Yes	1	.55-1(h)	G
Glutaraldehyde solution (50% or less)	GTA	19	0	NA	Ш	А	No	N/A	No	G
Hexamethylenediamine solution	HMC	7	0	Е	111	А	Yes	1	55-1(c)	G
Hexamethyleneimine	HMI	7	0	С	11	А	Yes	1	56-1(b), (c)	G
Hydrocarbon 5-9	HFN		0	С	Ш	А	Yes	1	50-70(a), 50-81(a), (b)	G
Isoprene	IPR	30	0	А	Ш	А	No	N/A	50-70(a), 50-81(a), (b)	G

*** This document is only valid when attached to, and referenced by a current, valid Certificate of Inspection. ***

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Serial #: C1-1401818 Dated: 28-May-14

Shipyard: TRES PALACIOS MARINE

Certificate of Inspection Cargo Authority Attachment

Vessel Name: CTCO 356B

Hull #: 157

Cargo Identification	า						(Condit	tions of Carriage	
Name Isoprene, Pentadiene mixture	Chem Code IPN	Compat Group No	Sub Chapter O	Grade	Hull Type III	Tank Group A	App'd	VCS Category N/A	Special Requirements in 46 CFR 151 General and Mat'ls of ,50-70(a), ,55-1(c)	Insp. Perio G
Kraft pulping liquors (free alkali content 3% or more)(including: Black Green, or White liquor)		5	0	NA	HI	A	No	N/A	.50-73, .56-1(a), (c), (g)	G
Mesityl oxide	MSO	18 ²	0	D	111	А	Yes	1	No	G
Methyl acrylate	MAM	14	0	С		A	Yes	2	.50-70(a), .50-81(a), (b)	G
Methylcyclopentadiene dimer	MCK	30	0	С	Ш	A	Yes	1	No	G
Methyl diethanolamine	MDE	8	о	Е	H	А	Yes	1	_56-1(b), (c)	G
2-Methyl-5-ethylpyridine	MEP	9	0	Е	111	A	Yes	1	.55-1(e)	G
Methyl methacrylate	MMM	14	0	С	ш	A	Yes	2	.50-70(a), .50-81(a), (b)	G
2-Methylpyridine	MPR	9	0	D	111	A	Yes	3	.55-1(c)	G
alpha-Methylstyrene	MSR	30	0	D	III	A	Yes	2	"50-70(a), "50-81(a), (b)	G
Morpholine	MPL	7 2	0	D	III	A	Yes	1	.55-1(c)	G
Nitroethane	NTE	42	0	D	11	A	No	N/A	.50-81, .56-1(b)	G
1- or 2-Nitropropane	NPM	42	õ	D	111	A	Yes	1	50-81	G
1,3-Pentadiene	PDE	30	0	A		A	No	N/A	.50-70(a), 50-81	G
Perchloroethylene	PER	36	0	NA	111	A	No	N/A	No	G
	PEB	7 2	0	E	10	A	Yes	1	.55-1(e)	G
Polyethylene polyamines		8	0	E				1	55-1(c)	G
iso-Propanolamine	MPA		-			A	Yes		56-1(b), (c)	G
Propanolamine (iso-, n-)	PAX	8	0	E		A	Yes	1	55-1(c)	G
so-Propylamine	IPP	7	0	A		A	Yes	5		G
Pyridine	PRD	9	0	С		A	Yes	1	.55-1(e)	G
Sodium acetate, Glycol, Water mixture (3% or more Sodium Hydroxid	,	5	0		111	A	No	N/A	50-73, 55-1(j)	-
Sodium aluminate solution (45% or less)	SAU	5	0	NA	HI	A	No	N/A	50-73, 56-1(a), (b), (c)	G
Sodium chlorate solution (50% or less)	SDD	0 1,2	0	NA	IN	A	No	N/A	.50-73	G
Sodium hypochlorite solution (20% or less)	SHQ	5	0	NA	111	A	No	N/A	.50-73, 56-1(a), (b)	G
Sodium sulfide, hydrosulfide solution (H2S 15 ppm or less)	SSH	0 1,2	0	NA	HI	A	Yes	1	.50-73, .55-1(b)	G
Sodium sulfide, hydrosulfide solution (H2S greater than 15 ppm but ess than 200 ppm)	SSI	0 1,2	0	NA	fit	Α	No	N/A	,50-73, ,55-1(b)	G
Sodium sulfide, hydrosulfide solution (H2S greater than 200 ppm)	SSJ	0 1,2	0	NA	11	A	No	N/A	.50-73, .55-1(b)	G
Styrene (crude)	STX	30	0	D	Ш	Α	Yes	2	No	G
Styrene monomer	STY	30	0	D	111	Α	Yes	2	.50-70(a), 50-81(a), (b)	G
,1,2,2-Tetrachloroethane	TEC	36	0	NA	m	А	No	N/A	No	G
[etraethylenepentamine	TTP	7	0	E	111	А	Yes	1	55-1(c)	G
Fetrahydrofuran	THF	41	0	С	Ш	А	Yes	1	.50-70(b)	G
oluenediamine	TDA	9	0	Е	11	А	No	N/A	.50-73, 56-1(a), (b), (c), (g)	G
,2,4-Trichlorobenzene	TCB	36	0	Е	111	А	Yes	1	No	G
,1,2-Trichloroethane	тсм	36	0	NA	III	А	Yes	1	.50-73, .56-1(a)	G
richloroethylene	TCL	36 ²	0	NA	Ш	A	Yes	1	No	G
,2,3-Trichloropropane	TCN	36	0	E	11	A	Yes	3	.50-73, .56-1(a)	G
riethanolamine	TEA	8 2	0	E	111	A	Yes	1	.55-1(b)	G
riethylamine	TEN	7	0	С		A	Yes	3	55-1(e)	G
riethylenetetramine	TET	7 2	0	E		A	Yes	1	.55-1(b)	G
riphenylborane (10% or less), caustic soda solution	TPB	5	0	NA		A	No	N/A	.56-1(a), (b), (c)	G
	TSP	5	0	NA			No	N/A	50-73, 56-1(a), (c)	G
risodium phosphate solution		6	0		111	A		N/A	56-1(b)	G
Irea, Ammonium nitrate solution (containing more than 2% NH3)	UAS			NA		A	No		50-73, 56-1(a), (c), (g)	G
'anillin black liquor (free alkali content, 3% or more).	VBL	5	0	NA	- 111	A	No	N/A	50-70(a), 50-81(a), (b)	G
inyl acetate	VAM	13	0	C		A	Yes	2	50-70(a), 50-81(a), (b)	G
inyl neodecanate	VND	13	0	E	111	A	No	N/A	55-ro(a), 50+0 ((a), (b)	9



Certificate of Inspection Cargo Authority Attachment

Vessel Name: CTCO 356B

Shipyard: TRES PALACIOS MARINE Hull #: 157

Official #: 1252829	_	ŀ	Page 4	of 8					MARINE Hull #: 157	
Cargo Identificatio	n							Condi	tions of Carriage	
Name	Chem Code	Compat Group No	Sub Chapter	Grade	Hull Type	Tank Group	App'd	Recovery VCS Category	Special Requirements in 46 CFR 151 General and Mat'ls of	Insp. Period
Subchapter D Cargoes Authorized for Vapor Contr	ol									1
Acetone	ACT	18 ²	D	С		Α	Yes	1		
Acetophenone	ACP	18	D	E		A	Yes	1		
Alcohol(C12-C16) poly(1-6)ethoxylates	APU	20	D	E		A	Yes	1		
Alcohol(C6-C17)(secondary) poly(7-12)ethoxylates	AEB	20	D	E		A	Yes	1		
Amyl acetate (all isomers)	AEC	34	D	D		Α	Yes	1		
Amyl alcohol (iso-, n-, sec-, primary)	AAI	20	D	D		A	Yes	1		
Benzyl alcohol	BAL	21	D	E		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	20	D	E		A	Yes	1		
Butyl acetate (all isomers)	BAX	34	D	D		А	Yes	1		
Butyl alcohol (iso-)	IAL	20 2	D	D		А	Yes	1		
Butyl alcohol (n-)	BAN	20 2	D	D		Α	Yes	1		
Butyl alcohol (sec-)	BAS	20 ²	D	С		A	Yes	1		
Butyl alcohol (tert-)	BAT	20 ²	D	С		А	Yes	1		
Butyl benzyl phthalate	BPH	34	D	E		А	Yes	1		
Butyl toluene	BUE	32	D	D		А	Yes	1		
Caprolactam solutions	CLS	22	D	E		А	Yes	1		
Cyclohexane	CHX	31	D	С		А	Yes	1		
Cyclohexanol	CHN	20	D	E		A	Yes	1		
1,3-Cyclopentadiene dimer (molten)	CPD	30	D	D/E		A	Yes	2		
p-Cymene	CMP	32	D	D		A	Yes	1		
iso-Decaldehyde	IDA	19	D	Е		A	Yes	1		
n-Decaldehyde	DAL	19	D	E		A	Yes	1		
Decene	DCE	30	D	D		A	Yes	1		
Decyl alcohol (all isomers)	DAX	20 2	D	E		A	Yes	1		
n-Decylbenzene, see Alkyl(C9+)benzenes	DBZ	32	D	E		A	Yes	1		
Diacetone alcohol	DAA	20 ²	D	D		A	Yes	1		
ortho-Dibutyl phthalate	DPA	34	D	E	_	A	Yes	1		
Diethylbenzene	DEB	32	D	D		A	Yes	1		
Diethylene glycol	DEG	40 2	D	E	_	A	Yes	1		
Diisobutylene	DBL	30	D	С		A	Yes	1		
Diisobutyl ketone	DIK	18	D	D		A	Yes	1		
Diisopropylbenzene (all isomers)	DIX	32	D	E		A	Yes	1		
Dimethyl phthalate	DTL	34	D	E		A	Yes	1		
Dioctyl phthalate	DOP	34	D	E		A	Yes	_1		
Dipentene	DPN	30	D	D		A	Yes	_1		
Diphenyl	DIL	32	D	D/E		A	Yes	1		_
Diphenyl, Diphenyl ether mixtures	DDO	33	D	E		A	Yes	1		
Diphenyl ether	DPE	41	D	{E}		A	Yes	_1		
Dipropylene glycol	DPG	40	D	E		A	Yes	1		
Distillates: Flashed feed stocks	DFF	33	D	E		A	Yes	1		_
Distillates: Straight run	DSR	33	D	E		A	Yes	1		
Dodecene (all isomers)	DOZ	30	D	D		A	Yes	1		_
Dodecylbenzene, see Alkyl(C9+)benzenes	DDB	32	D	E	-	A	Yes	1		
2-Ethoxyethyl acetate	EEA	34	D	D		A	Yes	1		
Ethoxy triglycol (crude)	ETG	40	D	E		A	Yes	1		



C1-1401818 Serial #: Dated: 28-May-14

Certificate of Inspection Cargo Authority Attachment

Vessel Name: CTCO 356B

Shipyard: TRES PALACIOS MARINE

Official #: 1252829		F	Page 5	of 8					Hull #: 157	
Cargo Identificatio	on		_	_				Condi	tions of Carriage	
Name	Chern Code	Compat Group No			Hull Type	Tank Group	App'd (Y or N)	Recovery VCS Category	Special Requirements in 46 CFR 151 General and Mat'ls of	Insp. Period
Ethyl acetate	ETA	34	D	С		A	Yes	1		
Ethyl acetoacetate	EAA	34	D	E		A	Yes	1		
Ethyl alcohol	EAL.	20 ²	D	С		Α	Yes	1		
Ethylbenzene	ETB	32	D	С	_	А	Yes	1		
Ethyl butanol	EBT	20	D	D		A	Yes	1		
Ethyl tert-butyl ether	EBE	41	D	С		A	Yes	1		
Ethyi butyrate	EBR	34	D	D		А	Yes	1		
Ethyl cyclohexane	ECY	31	D	D		Α	Yes	1		
Ethylene glycol	EGL	20 ²	D	E		А	Yes	1		
Ethylene glycol butyl ether acetate	EMA	34	D	E		А	Yes	1		
Ethylene glycol diacetate	EGY	34	D	E		Α	Yes	1		
Ethylene glycol phenyl ether	EPE	40	D	Е		А	Yes	1		
Ethyl-3-ethoxypropionate	EEP	34	D	D		Α	Yes	1		
2-Ethylhexanol	EHX	20	D	E		A	Yes	1		
Ethyl propionate	EPR	34	D	С		Α	Yes	1		
Ethyl toluene	ETE	32	Ď	D		A	Yes	1	8	
Formamide	FAM	10	D	E		A	Yes	1		
Furfuryl alcohol	FAL	20 ²	D	E		A	Yes	1		
Gasoline blending stocks: Alkylates	GAK	33	D	A/C		A	Yes	1		
Gasoline blending stocks: Reformates	GRF	33	D	A/C		A	Yes	1		
Gasolines: Automotive (containing not over 4.23 grams lead per gallon)	GAT	33	D	С		A	Yes	1		
Gasolines: Aviation (containing not over 4.86 grams of lead per gallon)	GAV	33	D	С		A	Yes	1		
Gasolines: Casinghead (natural)	GCS	33	D	A/C		А	Yes	1		
Gasolines: Polymer	GPL	33	Ð	A/C	_	A	Yes	1		
Gasolines: Straight run	GSR	33	D	A/C		А	Yes	1		
Glycerine	GCR	20.2	_D	E		_A	Yes	1		
Heptane (all isomers), see Alkanes (C6-C9) (all isomers)	HMX	31	D	С		A	Yes	1		
Heptanoic acid	HEP	4	D	E		A	Yes	1		
Heptanol (all isomers)	HTX	20	D	D/E		A	Yes	1		
Heptene (all isomers)	HPX	30	D	С		A	Yes	2		
Heptyl acetate	HPE	34	D	Ē		A	Yes	1		
Hexane (all isomers), see Alkanes (C6-C9)	HXS	31 ²	D	B/C		A	Yes	1		
Hexanoic acid	НХО	4	D	E		A	Yes	1		
Hexanol	HXN	20	D	D		A	Yes	1		
Hexene (all isomers)	HEX	30	D	C		A	Yes	2		
Hexylene glycol	HXG	20	D	E		A	Yes	1		
Isophorone	IPH	18 ²	D	E	_	A	Yes	1		
Jet fuel: JP-4	JPF	33	D	E		A	Yes	1		
Jet fuel: JP-5 (kerosene, heavy)	JPV	33	D	D		A	Yes	1		
Kerosene	KRS	33	D	D		A	Yes	1		
Methyl acetate	MTT	34	D	D		A	Yes	1		
Methyl alcohol	MAL	20 2	D	C		A	Yes	1		
Methylamyl acetate	MAC	34	D	D		A	Yes	1		
Methylamyl alcohol	MAA	20	D	D	_	A	Yes	1		
Methyl amyl ketone	MAK	18	D	D		A	Yes	1		
Methyl tert-butyl ether	MBE	41 ²	D	C		A	Yes	1		
Methyl butyl ketone	MBK	18	D	С		A	Yes	1		



Serial #: C1-1401818 Dated: 28-May-14

Certificate of Inspection Cargo Authority Attachment

Vessel Name: CTCO 356B

Shipyard: TRES PALACIOS MARINE Hull #: 157

Official #: 1252829			Page 6	of 8					MARINE Hull #: 157			
Cargo Identifica	ation	n						Conditions of Carriage				
Name	Chem Code	Compat Group No	Sub Chapte	r Grade	Hull Type	Tank Group	Vapor F App'd (Y or N)	Recovery VCS Category	Special Requirements in 46 CFR 151 General and Mat'ls of	Insp. Period		
Methyl butyrate	MBU	34	D	С		А	Yes	1				
Methyl ethyl ketone	MEK	10 ²	D	С		А	Yes	1				
Methyl heptyl ketone	MHK	18	D	D		A	Yes	1				
Methyl isobutyl ketone	MIK	18 ²	D	С		А	Yes	1				
Methyl naphthalene (molten)	MNA	32	D	Е		A	Yes	1				
Mineral spirits	MNS	33	D	D	_	А	Yes	1				
Myrcene	MRE	30	D	D		А	Yes	1				
Naphtha: Heavy	NAG	33	D	#		А	Yes	1				
Naphtha: Petroleum	PTN	33	D	#		А	Yes	1				
Naphtha: Solvent	NSV	33	D	D		А	Yes	1				
Naphtha: Stoddard solvent	NSS	33	D	D		А	Yes	1				
Naphtha: Varnish makers and painters (75%)	NVM	33	D	С		А	Yes	1				
Nonane (all isomers), see Alkanes (C6-C9)	NAX	31	D	D		А	Yes	1				
Nonene (all isomers)	NON	30	D	D		A	Yes	2				
Nonyl alcohol (all isomers)	NNS	20 ²	D	E		А	Yes	1				
Nonyl phenol	NNP	21	D	E		A	Yes	1				
Nonyl phenol poly(4+)ethoxylates	NPE	40	D	E		А	Yes	1				
Octane (all isomers), see Alkanes (C6-C9)	OAX	31	D	С		А	Yes	1				
Octanoic acid (all isomers)	OAY	4	D	Е		А	Yes	1				
Octanol (all isomers)	OCX	20 ²	D	E		A	Yes	1				
Octene (all isomers)	OTX	30	D	С		A	Yes	2				
Oil, fuel: No. 2	OTW	33	D	D/E		A	Yes	1				
Oil, fuel: No. 2-D	OTD	33	D	D		A	Yes	1				
Oil, fuel: No. 4	OFR	33	D	D/E		A	Yes	1				
Oil, fuel: No. 5	OFV	33	D	D/E		A	Yes	1				
Oil, fuel: No. 6	OSX	33	D	Е		A	Yes	1				
Oil, misc: Crude	OIL	33	D	A/D	_	A	Yes	1				
Oil, misc: Diesel	ODS	33	D	D/E		A	Yes	1				
Oil, misc: Gas, high pour	OGP	33	D	ε		A	Yes	1				
Oil, misc: Lubricating	OLB	33	D	E		A	Yes	1				
Oil, misc: Residual	ORL	33	D	E		A	Yes	1				
Oil, misc: Turbine	OTB	33	D	E		A	Yes	1				
Pentane (all isomers)	PTY	31	D	A		A	Yes	5				
Pentene (all isomers)	PTX	30	D	A		A	Yes	5				
n-Pentyl propionate	PPE	34	D	D		A	Yes	1				
alpha-Pinene	PIO	30	D	D		A	Yes	1				
beta-Pinene	PIP	30	D	D			-					
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	PAG	40				A	Yes	1				
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate	PAG	40 34	D	E		A	Yes	1				
Polybutene			D	E		A	Yes	1				
	PLB	30	D	E		A	Yes	1				
Polypropylene glycol	PGC	40	D	E		A	Yes	1				
iso-Propyl acetate	IAC	34	D	C		A	Yes	1				
n-Propyl acetate	PAT	34	D	C	_	A	Yes	1				
iso-Propyl alcohol	IPA	20 2	D	С		A	Yes	1				
n-Propyl alcohol	PAL	20 ²	D	С		A	Yes	1				
Propylbenzene (all isomers)	PBY	32	D	D		A	Yes	1				
iso-Propylcyclohexane	IPX	31	D	D		A	Yes	1				
Propylene glycol	PPG	20 2	D	E		A	Yes	1				



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Shipyard: TRES PALACIOS

MARINE

Hull #: 157

Certificate of Inspection Cargo Authority Attachment

Vessel Name: CTCO 356B

Official #: 1252829

Cargo Identification					Conditions of Carriage					
							Vapor F	Recovery		
Name	Chem Code	Compat Group No	Sub Chapter	Grade	Hull Type	Tank Group	App'd (Y or N)	VCS Category	Special Requirements in 46 CFR 151 General and Mat'ls of	Insp. Period
Propylene glycol methyl ether acetate	PGN	34	D	D		Α	Yes	1		
Propylene tetramer	PTT	30	D	D		А	Yes	1		
Sulfolane	SFL	39	D	Е		А	Yes	1		
Tetraethylene glycol	TTG	40	D	Е		А	Yes	1		
Tetrahydronaphthalene	THN	32	D	E		А	Yes	1		
Toluene	TOL	32	D	С		А	Yes	1		
Tricresyl phosphate (less than 1% of the ortho isomer)	TCP	34	D	E		А	Yes	1		
Triethylbenzene	TEB	32	D	Ε		А	Yes	- 9		
Triethylene glyco!	TEG	40	D	E		А	Yes	1		
Triethyl phosphate	TPS	34	D	E		А	Yes	1		
Trimethylbenzene (ali isomers)	TRE	32	D	{D}		А	Yes	1		
Trixylenyl phosphate	TRP	34	D	Е		А	Yes	1		
Undecene	UDC	30	D	D/E		А	Yes	1		
1-Undecyl alcohol	UND	20	D	Е		А	Yes	1		
Xylenes (ortho-, meta-, para-)	XLX	32	D	D		А	Yes	1		



Certificate of Inspection Cargo Authority Attachment

Vessel Name: CTCO 356B Official #: 1252829

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Shipyard: TRES PALACI Hull #: 157

Explanation of terms & symbols used in the Table:

Cargo Identification Name Chem Code none	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. 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, Note 1 Note 2	The cargo reactive group number assigned for compatibility determinations in 46 CFR Part 150 Tables I and IL. 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, and appendices of 46 CFR 150 in conjunction with the assigned reactive group number. 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 Chart. For additional compatibility information, contact Commandant (CG-3PSO-3), U.S. Coast Guard, 2100 Second Street, SW, Washington, DC 20593-0001. Telephone (202) 372-1425.
NOLE 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 A, B, C D, E Note 4 NA #	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 that grade of cargos. 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 of that grade of cargo. The sead on Manufacturers data and ensure that the barge is authorized for carriage of that grade of cargo. 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 yel, as the necessary flash point/vapor pressure data for such assignments are presently not available.
Hull Type i II III NA	The required barge hull classification for carriage of the specified Subchapter O hazardous malerial 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 sufficient 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	The vessel's tank group (as defined in Section 4) which is authorized for carriage of the named cargo,
Vapor Recovery Approved (Y or N)	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.
Conditions of Carriage	
Tank Group	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.
Vapor Recovery Approved (Y or N)	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: Category 1	The specified cargo's provisional classification for vapor control systems. (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 densitiles and vapor growth rates.
	(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-
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. (Polymerizes) Polymerization and residue build-up of these cargoes can adversely affect the vessel by fouling safety components are functional and polymer build-up is not 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,
Category 1 Category 2	 (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 35.5 and 46 CFR 39, 30-cergo 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. (Polymerizes) Polymerization and residue build-up of these cargoes can adversely affect the vessel by fouling safety components 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, Marine 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 (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.
Category 1 Category 2 Category 3	 (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 39, 3d 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. (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, Marine 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 (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 1 Category 2 Category 3 Category 4	 (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 densitiles and vapor growth rates. (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, Marine 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 (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. (Polymerizes and highly toxic) Must comply with requirements of Categories 1, 2 and 3. (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
Category 1 Category 2 Category 3 Category 4 Category 5	 (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 densitiles and vapor growth rates. (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, Marine 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 (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. (Polymerizes and highly toxic) Must comply with requirements of Category 1. (Polymerizes and highly toxic) Must comply with requirements of Category 1. 2 and 3. (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 Cate