



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

Certification Date: 06 Nov 2023

Expiration Date: 06 Nov 2024

# Temporary 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.

This Temporary Certificate of Inspection is issued under the provision of Title 46 United States Code, Section 399, in lieu of the regular certificate of inspection, and shall be in force only until the receipt on board said vessel of the original certificate of inspection, this certificate in no case to be valid after one year from the date of inspection.

Vessel Name	Official Number	IMO Number	Call Sign	Service
KIRBY 18601	945145			Tank Barge

Hailing Port	Hull Material	Horsepower	Propulsion
WILMINGTON, DE	Steel		
UNITED STATES			

Place Built	Delivery Date	Keel Laid Date	Gross Tons	Net Tons	DWT	Length
HOUSTON, TX	24May1989	01Sep1988	R-1201	R-961		R-218.0
UNITED STATES			-	-		-0

Owner	Operator
KIRBY INLAND MARINE LP 55 WAUGH DR STE 1000 HOUSTON, TX 77007 UNITED STATES	KIRBY INLAND MARINE, LP 18350 Market St. CHANNELVIEW, TX 77530 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 plus Limited Coastwise---**

Also, in fair weather only, not more than twelve (12) miles from shore between St. Marks and Carrabelle, Florida.

This vessel has been granted a fresh water service examination interval per 46 CFR 31.10-21(a)(2). If this vessel is operated in salt water more than 6 months in any 12 month period, the vessel must be inspected using salt water intervals per 46 CFR 31.10-21(a)(1) and the cognizant OCMI notified in writing as soon as this change in status occurs

This tank barge is participating in the Eighth & Ninth Coast Guard District's Tank Barge Streamlined Inspection

**\*\*\*SEE NEXT PAGE FOR ADDITIONAL CERTIFICATE INFORMATION\*\*\***

With this Inspection for Certification having been completed at Channelview, 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: <i>L. L. Woodman</i> L. L. WOODMAN, CDR, USCG, By direction Officer in Charge, Marine Inspection Marine Safety Unit Port Arthur Inspection Zone
Date	Zone	A/P/R	Signature	



# Temporary Certificate of Inspection

Vessel Name: KIRBY 18601

Program (TBSIP). Inspection activities aboard this barge shall be conducted per its Tank Barge Action Plan (TAP). Inspection issues concerning this barge should be directed to OCMI Houston-Galveston.

### ---Hull Exams---

Exam Type	Next Exam	Last Exam	Prior Exam
DryDock	31Oct2028	03Oct2018	10Aug2009
Internal Structure	30Nov2028	06Nov2023	03Oct2018

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

Authorization: FLAMMABLE/COMBUSTIBLE LIQUIDS AND SPECIFIED HAZARDOUS CARGOES

Total Capacity	Units	Highest Grade Type	Part151 Regulated	Part153 Regulated	Part154 Regulated
18643	Barrels	A	Yes	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	529	18.300
4 P/S	634	18.300
2,3	1057	18.300

### \*Loading Constraints - Stability\*

Hull Type	Maximum Load (short tons)	Maximum Draft (ft/in)	Max Density (lbs/gal)	Route Description
I	2162	8ft 6in	10.1	R, LBS
II	2335	9ft 0in	18.1	R, LBS
III	3244	11ft 7in	15.4	R, LBS
III	3244	11ft 7in	18.3	R, LBS
III	3393	12ft 0in	15.3	R, LBS

### \*Conditions Of Carriage\*

Only those hazardous cargoes named in the vessel's Cargo Authority Attachment, Serial No. C2-2100329 dated February 3, 2021, may be carried and then only in the tanks indicated, subject to the loading restrictions listed on the vessel's current stability letter.

Per 46 CFR 150.130, the person in charge of the vessel is responsible for ensuring the compatibility requirements of 46 CFR 150 are met. Cargoes must be checked for compatibility using figures, tables, and appendices of 46 CFR 150 in conjunction with the reactive group number from the "Compatibility Group No" column listed in the vessel's.

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

### \*Vapor Control Authorization\*

Per 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 letter Serial No. C1-1800435 dated February 2, 2018, and found acceptable for collection of bulk liquid cargo vapors annotated with "Yes" in the CAA's VCS column.



# Temporary Certificate of Inspection

Vessel Name: KIRBY 18601

**\*Stability and Trim\***

The maximum design density of cargo which may be filled to the tank top is 8.74 lbs/gal. Cargoes with higher densities, up to 18.3 lbs/gal, may be carried as slack loads, but shall not exceed the tank weight limits as listed above.

Per 46 CFR 151.10-15(c)(2), the maximum tank weights listed above reflect uniform (within 5%) loading at the deepest draft allowed. When carrying subchapter "O" cargoes at shallower drafts, the barge should always be loaded uniformly.

**--- Inspection Status ---**

**\*Cargo Tanks\***

Tank Id	Internal Exam			External Exam		
	Previous	Last	Next	Previous	Last	Next
1 P/S	19Aug2016	03Oct2018	31Oct2028	-	-	-
4 P/S	19Aug2016	03Oct2018	31Oct2028	-	-	-
2,3	19Aug2016	03Oct2018	31Oct2028	-	-	-

Tank Id	Safety Valves	Hydro Test		
		Previous	Last	Next
1 P/S	-	-	-	-
4 P/S	-	-	-	-
2,3	-	-	-	-

**---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\*\*\*

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commanding Officer  
United States Coast Guard  
Marine Safety Center

US Coast Guard Stop 7430  
2703 Martin Luther King Jr Ave SE  
Washington, DC 20593-7430  
Staff Symbol: MSC-3  
Phone: (202) 795-6731  
Email: msc@uscg.mil

16710/P005476/jdm1  
Serial: C2-2100329  
February 3, 2021

Marine Solution Inc.  
Attn: Mr. Chetan Kumaria, P.E.  
P.O. Box 218197  
Nashville, TN 37221  
marinesolinc@aol.com

Subj: KIRBY 18601, O.N. 945145, Platzer Shipyard Hull No. 291  
KIRBY 18602, O.N. 945146, Platzer Shipyard Hull No. 292  
218'-6" x 52'-6" x 12'-6"; Unmanned Type I Tank Barges (D/O)  
Grade A (max. 25 psia Reid) and Lower Flammable or Combustible Liquids Identified in  
46 CFR Table 30.25-1 or 46 CFR Part 153 Table 2 and Specified Hazardous Cargoes  
Rivers; Lakes, Bays, and Sounds  
Updated Cargo Authority Attachment

Dear Mr. Kumaria:

In response to your email dated December 6, 2020 (MSC Document No. 2018126), we have removed cargoes from the subject vessels' cargo lists which do not have Inspection Period "G" listed in 46 CFR Table 151.05. The cargo lists are attached as enclosures (1) and (2). The Cargo Authority Attachment (CAA), which contains the cargoes found in enclosures (1) and (2), is now available in the Coast Guard's Marine Information for Safety and Law Enforcement (MISLE) for issuance by the Officer in Charge, Marine Inspection (OCMI).

Please note that only the local OCMI can issue a vessel's CAA, which is valid only when referenced by and attached to a valid Certificate of Inspection (COI). For the OCMI's convenience, we have included the following recommended COI endorsements:

Only those hazardous cargoes named in the vessel's Cargo Authority Attachment, Serial No. C2-2100329 dated February 3, 2021, may be carried and then only in the tanks indicated, subject to the loading restrictions listed on the vessel's current stability letter.

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

Per 46 CFR 150.130, the person in charge of the vessel is responsible for ensuring the compatibility requirements of 46 CFR 150 are met. Cargoes must be checked for compatibility using figures, tables, and appendices of 46 CFR 150 in conjunction with the reactive group number from the "Compatibility Group No" column listed in the vessel's

Subj: KIRBY 18601, O.N. 945145  
KIRBY 18602, O.N. 945146  
Updated Cargo Authority Attachment

16710/P005476/alm  
Serial: C2-2100329  
February 3, 2021

CAA.

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 letter Serial No. C1-1800435 dated February 2, 2018, and found acceptable for collection of bulk liquid cargo vapors annotated with "Yes" in the CAA's VCS column.

As an agreed-upon condition of your participation in the Marine Safety Center's electronic commerce program, you must provide the OCMI with a copy of this letter.

Our Project Number for these vessels is P005476. Please ensure that all future correspondence includes the Project Number and the Official Number that appears in the subject line.

Please contact LT Joel MacArthur at (202) 795-6779 with questions concerning our review.

Sincerely,



A. L. MOHNKE  
Lieutenant, U. S. Coast Guard  
Acting Chief, Outer Continental Shelf Branch  
By direction

Encl: (1) Vapor Collection System List of Cargoes; KIRBY 18601 and KIRBY 18602, O.N. 945145 and 945146, Platzer Shipyard Hull Nos. 291 and 292; dated February 3, 2021  
(2) 46 CFR Part 151 Cargo List, KIRBY 18601 and KIRBY 18602, O.N. 945145 and 945146, Platzer Shipyard Hull Nos. 291 and 292; dated February 3, 2021

Copy: Commanding Officer, Marine Safety Unit Port Arthur

## Vapor Control System List of Cargoes

for: KIRBY 18601 - KIRBY 18602, O.N. 945145 - 945146, Platzer Hull , 291 - 292

Chem Code	Chemical Name	VCS Category
AAC	Acetic acid	1
ACA	Acetic anhydride	1
ACT	Acetone	1
ACY	Acetone cyanohydrin	3
ATN	Acetonitrile	3
ACP	Acetophenone	1
ACR	Acrylic acid	2
ACN	Acrylonitrile	4
ADN	Adiponitrile	1
APW	Alcohol (C12-C16) poly(20+) ethoxylates	1
AEA	Alcohol (C6-C17) (secondary) poly(3-6) ethoxylates	1
AEB	Alcohol (C6-C17) (secondary) poly(7-12) ethoxylates	1
ALA	Allyl alcohol	3
ALC	Allyl chloride	3
AEE	Aminoethyl ethanolamine	1
AEC	Amyl acetate (all isomers)	1
AAI	Amyl alcohol (iso-, n-, sec-, primary)	1
ANL	Aniline	3
BNZ	Benzene	1
BHB	Benzene and mixtures having 10% Benzene or more	1
BHA	Benzene or hydrocarbon mixtures (containing Acetylene and 10% Benzene or more)	1
BTX	Benzene, Toluene, Xylene mixtures (10% Benzene or more)	1
BZE	Benzyl acetate	1
BAL	Benzyl alcohol	1
BFY	Brake fluid base mixtures (containing Poly(2-8)alkylene(C2-C3) glycols, Polyalkylene(C2-C10) glycol monoalkyl(C1-C4) ethers, and their borate esters)	1
BAX	Butyl acetate (all isomers)	1
BAR	Butyl acrylate (all isomers)	2
IAL	Isobutyl alcohol	1
BAN	Butyl alcohol (n-)	1
BAS	Butyl alcohol (sec-)	1
BAT	tert-Butyl Alcohol	1
BPH	Butyl benzyl phthalate	1
BMH	Butyl methacrylate	2
BUE	Butyl toluene	1
BAE	Butyraldehyde (all isomers)	1
CLS	Caprolactam solutions	1
CBO	Carbolic oil	3
CBT	Carbon tetrachloride	3
CRB	Chlorobenzene	1
CRF	Chloroform	3
CHD	Chlorohydrins (crude)	3
NCT	Coal tar naphtha solvent	1
CCW	Creosote	1
CRS	Cresols (all isomers)	1
CRX	Cresylic acid tar	1
CTA	Crotonaldehyde	4
CHG	Crude hydrocarbon feedstock (containing Butyraldehydes and Ethylpropyl acrolein)	1

<b>Chem Code</b>	<b>Chemical Name</b>	<b>VCS Category</b>
CYE	Cycloheptane	1
CHX	Cyclohexane	1
CHN	Cyclohexanol	1
CCH	Cyclohexanone	1
CYX	Cyclohexanone, Cyclohexanol mixture	1
CYC	Cyclohexyl acetate	1
CHA	Cyclohexylamine	1
CPD	1,3-Cyclopentadiene dimer (molten)	2
CSB	Cyclopentadiene, Styrene, Benzene mixture	1
CYP	Cyclopentane	1
CMP	p-Cymene	1
IDA	iso-Decaldehyde	1
DAL	n-Decaldehyde	1
DCO	Decanoic acid	1
DCE	Decene	1
IAI	iso-Decyl acrylate	2
DAX	Decyl alcohol (all isomers)	1
DBZ	n-Decylbenzene, see Alkyl(C9+)benzenes	1
DAA	Diacetone alcohol	1
DPA	Dibutyl phthalate	1
DBX	Dichlorobenzene (all isomers)	3
DCH	1,1-Dichloroethane	1
DEE	2,2'-Dichloroethyl ether	1
DPB	1,1-Dichloropropane	3
DPP	1,2-Dichloropropane	3
DPC	1,3-Dichloropropane	3
DPU	1,3-Dichloropropene	4
DMX	Dichloropropene, Dichloropropane mixtures	1
DEA	Diethanolamine	1
DEN	Diethylamine	3
DEB	Diethylbenzene	1
DEG	Diethylene glycol	1
DET	Diethylenetriamine	1
DBU	Diisobutylamine	3
DBL	Diisobutylene	1
DIK	Diisobutyl ketone	1
DIP	Diisopropanolamine	1
DIA	Diisopropylamine	3
DIX	Diisopropylbenzene (all isomers)	1
DAC	N,N-Dimethylacetamide	3
DSK	Dimethyl disulfide	3
DMB	Dimethylethanolamine	1
DMF	Dimethylformamide	1
DTL	Dimethyl phthalate	1
DOP	Diethyl phthalate	1
DPN	Dipentene	1
DIL	Diphenyl	1
DDO	Diphenyl, Diphenyl ether mixtures	1
DPE	Diphenyl ether	1
DNA	Di-n-propylamine	3
DPG	Dipropylene glycol	1
DFF	Distillates: Flashed feed stocks	1
DSR	Distillates: Straight run	1
DOZ	Dodecene (all isomers)	1

<b>Chem Code</b>	<b>Chemical Name</b>	<b>VCS Category</b>
DDB	Dodecylbenzene	1
EPC	Epichlorohydrin	3
MEA	Ethanolamine	1
EEA	2-Ethoxyethyl acetate	1
ETG	Ethoxy triglycol (crude)	1
ETA	Ethyl acetate	1
EAA	Ethyl acetoacetate	1
EAC	Ethyl acrylate	2
EAL	Ethyl alcohol	1
ETB	Ethylbenzene	1
EBT	Ethyl butanol	1
EBA	N-Ethylbutylamine	3
EBE	Ethyl tert-butyl ether	1
EBR	Ethyl butyrate	1
ECY	Ethyl cyclohexane	1
ECC	N-Ethylcyclohexylamine	1
ECH	Ethylene chlorohydrin	3
ETC	Ethylene cyanohydrin	1
EDA	Ethylenediamine	1
EDC	Ethylene dichloride	1
EGL	Ethylene glycol	1
EMA	Ethylene glycol butyl ether acetate	1
EGY	Ethylene glycol diacetate	1
EGC	Ethylene glycol monoalkyl ethers	1
EPE	Ethylene glycol phenyl ether	1
EGP	Ethylene glycol propyl ether	1
EEP	Ethyl-3-ethoxypropionate	1
EHX	2-Ethylhexanol	1
EAI	2-Ethylhexyl acrylate	2
ETM	Ethyl methacrylate	2
EPR	Ethyl propionate	1
EPA	2-Ethyl-3-propylacrolein	1
ETE	Ethyl toluene	1
FMS	Formaldehyde solution (37% to 50%)	1
FAM	Formamide	1
FMA	Formic acid	1
FFA	Furfural	1
FAL	Furfuryl alcohol	1
GAK	Gasoline blending stocks: Alkylates	1
GRF	Gasoline blending stocks: Reformates	1
GAT	Gasolines: Automotive (containing not over 4.23 grams lead per gallon)	1
GAV	Gasolines: Aviation (containing not over 4.86 grams of lead per gallon)	1
GCS	Gasolines: Casinghead (natural)	1
GPL	Gasolines: Polymer	1
GSR	Gasolines: Straight run	1
GCR	Glycerine	1
HMX	Heptane (all isomers)	1
HEN	n-Heptanoic acid	1
HTX	Heptanol (all isomers)	1
HPX	Heptene (all isomers)	2
HPE	Heptyl acetate	1
HMC	Hexamethylenediamine solution	1



<b>Chem Code</b>	<b>Chemical Name</b>	<b>VCS Category</b>
HMI	Hexamethyleneimine	1
HXS	Hexane (all isomers)	1
HXO	Hexanoic acid	1
HXN	Hexanol	1
HEX	Hexene (all isomers)	2
HXG	Hexylene glycol	1
HAI	2-Hydroxyethyl acrylate	3
IPH	Isophorone	1
JPF	Jet fuel: JP-4	1
JPV	Jet fuel: JP-5 (kerosene, heavy)	1
KRS	Kerosene	1
LRA	Lauric acid	1
MSO	Mesityl oxide	1
MTT	Methyl acetate	1
MAM	Methyl acrylate	2
MAL	Methyl alcohol	1
MAC	Methylamyl acetate	1
MAA	Methylamyl alcohol	1
MAK	Methyl amyl ketone	1
MBE	Methyl tert-butyl ether	1
MBK	Methyl butyl ketone	1
MBU	Methyl butyrate	1
MCY	Methylcyclohexane	1
MCK	Methylcyclopentadiene dimer	1
MDE	Methyl diethanolamine	1
MEK	Methyl ethyl ketone	1
MEP	2-Methyl-5-ethyl pyridine	1
MHK	Methyl heptyl ketone	1
MHB	2-Methyl-2-hydroxy-3-butyne	1
MIK	Methyl isobutyl ketone	1
MMM	Methyl methacrylate	2
MPR	2-Methylpyridine	3
MSR	alpha-Methylstyrene	2
MNS	Mineral spirits	1
MPL	Morpholine	1
MRE	Myrcene	1
NAG	Naphtha: Heavy	1
NTM	Naphthalene (molten)	1
PTN	Naphtha: Petroleum	1
NSV	Naphtha: Solvent	1
NSS	Naphtha: Stoddard solvent	1
NVM	Naphtha: Varnish makers and painters (75%)	1
NEA	Neodecanoic acid	1
NTB	Nitrobenzene	3
NPM	1- or 2-Nitropropane	1
NAX	Nonane (all isomers)	1
NON	Nonene (all isomers)	2
NNS	Nonyl alcohol (all isomers)	1
NNP	Nonyl phenol	1
NPE	Nonyl phenol poly(4+)ethoxylates	1
OAX	Octane (all isomers)	1
OAY	Octanoic acid (all isomers)	1
OCX	Octanol (all isomers)	1
OTX	Octene (all isomers)	2

<b>Chem Code</b>	<b>Chemical Name</b>	<b>VCS Category</b>
OTW	Oil, fuel: No. 2	1
OTD	Oil, fuel: No. 2-D	1
OFR	Oil, fuel: No. 4	1
OSX	Oil, fuel: No. 6	1
OIL	Oil, misc: Crude	1
ODS	Oil, misc: Diesel	1
OGP	Oil, misc: Gas, high pour	1
OLB	Oil, misc: Lubricating	1
ORL	Oil, misc: Residual	1
OTB	Oil, misc: Turbine	1
OFZ	Olefins (C13+, all isomers)	1
PPE	n-Pentyl propionate	1
PAN	Phthalic anhydride (molten)	1
PIO	alpha-Pinene	1
PIP	beta-Pinene	1
PAG	Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether	1
PAF	Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether acetate	1
PLB	Polybutene	1
PEB	Polyethylene polyamines	1
PGC	Polypropylene glycol	1
MPA	iso-Propanolamine	1
PAX	Propanolamine (iso-, n-)	1
PAD	Propionaldehyde	2
PNA	Propionic acid	1
IAC	Isopropyl acetate	1
PAT	n-Propyl acetate	1
IPA	Isopropyl alcohol	1
PAL	n-Propyl alcohol	1
PBY	Propylbenzene (all isomers)	1
IPX	Isopropylcyclohexane	1
PPG	Propylene glycol	1
PGN	Propylene glycol methyl ether acetate	1
PTT	Propylene tetramer	1
PRD	Pyridine	1
SSH	Sodium sulfide, hydrosulfide solution (H2S 15 ppm or less)	1
STY	Styrene monomer	2
SFL	Sulfolane	1
TTG	Tetraethylene glycol	1
TTP	Tetraethylene pentamine	1
THF	Tetrahydrofuran	1
THN	Tetrahydronaphthalene	1
TTC	Tetramethylbenzene (all isomers)	1
TOL	Toluene	1
TLI	o-Toluidine	3
TCB	1,2,4-Trichlorobenzene	1
TCM	1,1,2-Trichloroethane	1
TCL	Trichloroethylene	1
TCN	1,2,3-Trichloropropane	3
TCP	Tricresyl phosphate (containing less than 1% ortho isomer)	1
TEA	Triethanolamine	1
TEN	Triethylamine	3
TEB	Triethylbenzene	1
TEG	Triethylene glycol	1
TET	Triethylenetetramine	1

<b>Chem Code</b>	<b>Chemical Name</b>	<b>VCS Category</b>
TPS	Triethyl phosphate	1
TRE	Trimethylbenzene (all isomers)	1
TMP	2,2,4-Trimethyl-1,3-pentanediol-1-isobutyrate	1
TRP	Trixylyl phosphate	1
UDC	1-Undecene	1
UND	Undecyl alcohol	1
VAM	Vinyl acetate	2
VNT	Vinyltoluene	2
XLX	Xylenes	1

### Vapor Control System (VCS) Categories

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 39.2011) and the pressure drop calculations (46 CFR 39.3000) 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, 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 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 39.2009. 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: (High vapor pressure and highly toxic) Must comply with requirements of Categories 1, 3 and 5.

Category 7: (High vapor pressure and polymerizes) Must comply with requirements of Categories 1, 2 and 5.

# List of Authorized Cargoes (LOAC)

for: KIRBY 18601 - KIRBY 18602, O.N. 945145 - 945146, Platzer, 291 - 292

Revised: 2/3/2021

Cargo Identification				Hull Type	Cargo Seg Tank	Tanks			Cargo Transfer		Environmental Control		Fire Prot Req	Special Requirements	Elec Haz	Temp Cont	Tank Intl Insp Period	Tank Group
Name	Chem Code	Press.	Temp.			Type	Vent	Gauge	Pipe Clas	Cont	Tanks	Handling Space						
Acetic acid	AAC	Atmos.	Amb.	III	1i 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-73, .55-1(g)	I-D	NA	G	A
Acetic anhydride	ACA	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-73, .55-1(g)	I-D	NA	G	A
Acetone cyanohydrin	ACY	Atmos.	Amb.	I	1ii 2i	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5, .50-70(b), .50-73, .50-81	I-D	NA	G	A
Acetonitrile	ATN	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G	A
Acrylic acid	ACR	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a), .50-73, .50-81, .58-1(a)	I-D	NA	G	A
Acrylonitrile	ACN	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-70(a), .55-1(e)	I-D	NA	G	A
Adiponitrile	ADN	Atmos.	Amb.	II	1ii 2i	Integral Gravity	PV	Open	II	G-1	NR	Vent F	Yes	No	I-D	NA	G	A
Alkylbenzenesulfonic acid (greater than 4%)	ABS	Atmos.	Elev.	III	1ii 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-73, .58-1(e)	NA	NA	G	A
Alkyl (C7-C9) nitrates	AKN	Atmos.	Amb.	III	1i 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-81, .50-86	NA	NA	G	A
Allyl alcohol	ALA	Atmos.	Amb.	I	1ii 2ii	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5, .50-73	I-C	NA	G	A
Allyl chloride	ALC	Atmos.	Amb.	I	1ii 2ii	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5	I-D	NA	G	A
Aluminum sulfate solution	ASX	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.58-1(e)	NA	NA	G	A
Aminoethyl ethanolamine	AEE	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(b)	NA	NA	G	A
Ammonium bisulfite solution (70% or less)	ABX	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.50-73, .56-1(a), (b), (c)	NA	NA	G	A
Ammonium hydroxide (28% or less NH3)	AMH	Atmos.	Amb.	III	1i 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.56-1(a), (b), (c), (f), (g)	I-D	NA	G	A
Aniline	ANL	Atmos.	Amb.	I	1ii 2ii	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5, .50-73	I-D	NA	G	A
Anthracene oil (Coal tar fraction)	AHO	Atmos.	Amb/Elev	II	1ii 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	No	I-D	NA	G	A
Benzene	BNZ	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-60	I-D	NA	G	A
Benzene and mixtures having 10% Benzene or more	BHB	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-60	I-D	NA	G	A

Cargo Identification				Hull Type	Cargo Seg Tank	Tanks			Cargo Transfer		Environmental Control		Fire Prot Req	Special Requirements	Elec Haz	Temp Cont	Tank Intl Insp Period	Tank Group
Name	Chem Code	Press.	Temp.			Type	Vent	Gauge	Pipe Clas	Cont	Tanks	Handling Space						
Benzene or hydrocarbon mixtures (containing Acetylene and 10% Benzene or more)	BHA	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-60, .56-1(b), (d), (f), (g)	I-D	NA	G	A
Benzene, Toluene, Xylene mixtures (10% Benzene or more)	BTX	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-60	I-D	NA	G	A
Butyl acrylate (all isomers)	BAR	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent N	Yes	.50-70(a), .50-81(a), (b)	I-D	NA	G	A
Butyl methacrylate	BMH	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a), .50-81(a), (b)	I-D	NA	G	A
Butyraldehyde (all isomers)	BAE	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Open	II	G-1	NR	Vent F	Yes	.55-1(h)	I-C	NA	G	A
Camphor oil (light)	CPO	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	No	I-D	NA	G	A
Carbolic oil	CBO	Atmos.	Amb.	I	1ii 2ii	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5, .50-73	NA	NA	G	A
Carbon tetrachloride	CBT	Atmos.	Amb.	III	1i 2i	Integral Gravity	PV	Open	II	G-1	NR	Vent N	No	No	NA	NA	G	A
Caustic potash solution	CPS	Atmos.	Amb/Elev	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	NR	No	.50-73, .55-1(j)	NA	NA	G	A
Caustic soda solution	CSS	Atmos.	Amb/Elev	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	NR	No	.50-73, .55-1(j)	NA	NA	G	A
Chlorobenzene	CRB	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Open	II	G-1	NR	Vent N	Yes	No	I-D	NA	G	A
Chloroform	CRF	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent F	No	No	NA	NA	G	A
Chlorohydrins (crude)	CHD	Atmos.	Amb.	I	1ii 2ii	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5	I-D	NA	G	A
o-Chloronitrobenzene	CNO	Atmos.	Amb.	I	1ii 2ii	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5, .50-73	NA	NA	G	A
Chlorosulfonic acid	CSA	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Open	II	G-1	NR	Vent N	No	.50-20, .50-21, .50-73	I-B	NA	G	A
Coal tar crude bases	CTB	Atmos.	Amb.	I	1ii 2ii	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-5, .50-73, .55-1(e)	I-D	NA	G	A
Coal tar naphtha solvent	NCT	Atmos.	Amb.	III	1i 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-73	I-D	NA	G	A
Coal tar pitch (molten)	CTP	Atmos.	Elev	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-73	I-D	NA	G	A
Creosote	CCW	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	No	NA	NA	G	A
Cresols (all isomers)	CRS	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	No	NA	NA	G	A
Cresylate spent caustic	CSC	Atmos.	Amb.	III	1ii 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.50-73, .55-1(b)	NA	NA	G	A

Cargo Identification				Hull Type	Cargo Seg Tank	Tanks			Cargo Transfer		Environmental Control		Fire Prot Req	Special Requirements	Elec Haz	Temp Cont	Tank Intl Insp Period	Tank Group
Name	Chem Code	Press.	Temp.			Type	Vent	Gauge	Pipe Clas	Cont	Tanks	Handling Space						
Cresylic acid tar	CRX	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(f)	NA	NA	G	A
Crotonaldehyde	CTA	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(h)	I-C	NA	G	A
Crude hydrocarbon feedstock (containing Butyraldehydes and Ethylpropyl acrolein)	CHG	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	NR	Yes	No	I-D	NA	G	A
Cyclohexanone	CCH	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.56-1(a), (b)	I-D	NA	G	A
Cyclohexanone, Cyclohexanol mixture	CYX	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.56-1 (b)	I-D	NA	G	A
Cyclohexylamine	CHA	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.56-1(a), (b), (c), (g)	I-D	NA	G	A
Cyclopentadiene, Styrene, Benzene mixture	CSB	Atmos.	Amb.	III	1i 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent F	Yes	.50-60, .56-1(b)	I-D	NA	G	A
iso-Decyl acrylate	IAI	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-70(a), .50-81(a), (b), .55-1(c)	NA	NA	G	A
Dichlorobenzene (all isomers)	DBX	Atmos.	Amb.	III	1ii 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.56-1(a), (b)	I-D	NA	G	A
1,1-Dichloroethane	DCH	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G	A
2,2'-Dichloroethyl ether	DEE	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(f)	I-C	NA	G	A
Dichloromethane	DCM	Atmos.	Amb.	III	1i 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	No	I-D	NA	G	A
2,4-Dichlorophenoxyacetic acid, diethanolamine salt solution	DDE	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.56-1(a), (b), (c), (g)	NA	NA	G	A
2,4-Dichlorophenoxyacetic acid, dimethylamine salt solution	DAD	Atmos.	Amb/Elev	III	1i 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.56-1(a), (b), (c), (g)	NA	NA	G	A
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution	DTI	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.56-1(a), (b), (c), (g)	NA	NA	G	A
1,1-Dichloropropane	DPB	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G	A
1,2-Dichloropropane	DPP	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G	A
1,3-Dichloropropane	DPC	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G	A
1,3-Dichloropropene	DPU	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G	A
Dichloropropene, Dichloropropane mixtures	DMX	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	No	I-D	NA	G	A
Diethanolamine	DEA	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(c)	NA	NA	G	A

Cargo Identification				Hull Type	Cargo Seg Tank	Tanks			Cargo Transfer		Environmental Control		Fire Prot Req	Special Requirements	Elec Haz	Temp Cont	Tank Intl Insp Period	Tank Group
Name	Chem Code	Press.	Temp.			Type	Vent	Gauge	Pipe Clas	Cont	Tanks	Handling Space						
Diethylamine	DEN	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(c)	I-C	NA	G	A
Diethylenetriamine	DET	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(c)	NA	NA	G	A
Diisobutylamine	DBU	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(c)	I-C	NA	G	A
Diisopropanolamine	DIP	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(c)	NA	NA	G	A
Diisopropylamine	DIA	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.55-1(c)	I-C	NA	G	A
N,N-Dimethylacetamide	DAC	Atmos.	Amb.	III	1ii 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.56-1(b)	I-D	NA	G	A
Dimethyl disulfide	DSK	Atmos.	Amb.	II	1ii 2i	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5	1-D	No	G	A
Dimethylethanolamine	DMB	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.56-1(b), (c)	I-C	NA	G	A
Dimethylformamide	DMF	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(e)	I-D	NA	G	A
Di-n-propylamine	DNA	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(c)	I-C	NA	G	A
Dodecyl dimethylamine, Tetradecyldimethylamine mixture	DOT	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.56-1(b)	NA	NA	G	A
Dodecyl diphenyl ether disulfonate solution	DOS	Atoms.	Amb.	II	1ii 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	No	NA	NA	G	A
EE Glycol Ether Mixture	EEG	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-C	NA	G	A
Epichlorohydrin	EPC	Atmos.	Amb.	I	1ii 2ii	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5	I-C	NA	G	A
Ethanolamine	MEA	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(c)	I-D	NA	G	A
Ethyl acrylate	EAC	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a), .50-81(a), (b)	I-D	NA	G	A
Ethylamine solutions (72% or less)	EAN	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.55-1(b)	I-D	NA	G	A
N-Ethylbutylamine	EBA	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(b)	I-C	NA	G	A
N-Ethylcyclohexylamine	ECC	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(b)	I-C	NA	G	A
Ethylene chlorohydrin	ECH	Atmos.	Amb.	I	1ii 2ii	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5, .50-73	I-D	NA	G	A
Ethylene cyanohydrin	ETC	Atmos.	Amb.	III	1i 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	No	NA	NA	G	A

Cargo Identification				Hull Type	Cargo Seg Tank	Tanks			Cargo Transfer		Environmental Control		Fire Prot Req	Special Requirements	Elec Haz	Temp Cont	Tank Intl Insp Period	Tank Group
Name	Chem Code	Press.	Temp.			Type	Vent	Gauge	Pipe Clas	Cont	Tanks	Handling Space						
Ethylenediamine	EDA	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(c)	I-D	NA	G	A
Ethylene dibromide	EDB	Atmos.	Amb.	II	1ii 2i	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	No	No	NA	NA	G	A
Ethylene dichloride	EDC	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G	A
Ethylene glycol hexyl ether	EGH	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	No	NA	NA	G	A
Ethylene glycol monoalkyl ethers	EGC	Atmos.	Amb.	III	1i 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-C	NA	G	A
Ethylene glycol propyl ether	EGP	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	No	NA	NA	G	A
2-Ethylhexyl acrylate	EAI	Atmos.	Amb.	III	1i 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-70(a), .50-81(a), (b)	I-D	NA	G	A
Ethyl methacrylate	ETM	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a)	I-D	NA	G	A
2-Ethyl-3-propylacrolein	EPA	Atmos.	Amb.	III	1i 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-C	NA	G	A
Formaldehyde solution (37% to 50%)	FMS	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.55-1(h)	I-B	NA	G	A
Formic acid	FMA	Atmos.	Amb.	III	1ii 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-73, .55-1(i)	I-D	NA	G	A
Furfural	FFA	Atmos.	Amb.	III	1ii 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(h)	I-C	NA	G	A
Glutaraldehyde solutions (50% or less)	GTA	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	No	NA	NA	G	A
Glyoxylic Acid Solution (50% or less)	GAC	Atmos.	Amb.	III	1i 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-73, .50-81, .58-1(e)	NA	NA	G	A
Hexamethylenediamine solution	HMC	Atmos.	Amb.	III	1i 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(c)	I-D	NA	G	A
Hexamethyleneimine	HMI	Atmos.	Amb.	II	1ii 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.56-1(b), (c)	I-C	NA	G	A
2-Hydroxyethyl acrylate	HAI	Atmos.	Amb.	I	1ii 2i	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5, .50-70(a), .50-73, .50-81(a), (b)	NA	NA	G	A
Isoprene	IPR	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Open	II	G-1	NR	Vent F	Yes	.50-70(a), .50-81(a), (b)	I-D	NA	G	A
Isoprene, Pentadiene mixture	IPN	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a), .55-1(c)	I-D	NA	G	A
Kraft pulping liquors (free alkali content 3% or more)(including: Black, Green, or White liquor)	KPL	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	NR	No	.50-73, .56-1(a), (c), (g)	NA	NA	G	A
Mesityl oxide	MSO	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G	A



Cargo Identification				Hull Type	Cargo Seg Tank	Tanks			Cargo Transfer		Environmental Control		Fire Prot Req	Special Requirements	Elec Haz	Temp Cont	Tank Intl Insp Period	Tank Group
Name	Chem Code	Press.	Temp.			Type	Vent	Gauge	Pipe Clas	Cont	Tanks	Handling Space						
Methyl acrylate	MAM	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a), .50-81(a), (b)	I-D	NA	G	A
Methylcyclopentadiene dimer	MCK	Atmos.	Amb.	III	1i 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-B	NA	G	A
Methyl diethanolamine	MDE	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.56-1(b), (c)	I-C	NA	G	A
2-Methyl-5-ethyl pyridine	MEP	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(e)	I-D	NA	G	A
Methyl methacrylate	MMM	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a), .50-81(a), (b)	I-D	NA	G	A
2-Methylpyridine	MPR	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(c)	I-D	NA	G	A
alpha-Methylstyrene	MSR	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a), .50-81(a), (b)	I-D	NA	G	A
Morpholine	MPL	Atmos.	Amb.	III	1i 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(c)	I-C	NA	G	A
Naphthalene (molten)	NTM	Atmos.	Elev.	III	1ii 2ii	Integral Gravity	Open	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G	A
Nitrobenzene	NTB	Atmos.	Amb.	I	1ii 2ii	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5, .50-73	I-D	NA	G	A
Nitroethane	NTE	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-81, .56-1(b)	I-C	NA	G	A
1- or 2-Nitropropane	NPM	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-81	I-C	NA	G	A
o-Nitrotoluene	NIE	Atmos.	Amb.	I	1ii 2ii	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5, .50-73	I-D	NA	G	A
Olefins (C13+, all isomers)	OFZ	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes		NA	No	G	A
Pentachloroethane	PCE	Atmos.	Amb.	III	1ii 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	No	NA	NA	G	A
1,3-Pentadiene	PDE	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a), .50-81	I-D	NA	G	A
Perchloroethylene	PER	Atmos.	Amb.	III	1i 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	No	NA	NA	G	A
Phthalic anhydride (molten)	PAN	Atmos.	Elev	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G	A
Polyethylene polyamines	PEB	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(e)	NA	NA	G	A
Potassium chloride solution (brine)	PCSB	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No		NA	No	G	A
iso-Propanolamine	MPA	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(c)	I-D	NA	G	A

Cargo Identification				Hull Type	Cargo Seg Tank	Tanks			Cargo Transfer		Environmental Control		Fire Prot Req	Special Requirements	Elec Haz	Temp Cont	Tank Intl Insp Period	Tank Group
Name	Chem Code	Press.	Temp.			Type	Vent	Gauge	Pipe Clas	Cont	Tanks	Handling Space						
Propanolamine (iso-, n-)	PAX	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.56-1(b), (c)	I-D	NA	G	A
Propionic acid	PNA	Atmos.	Amb.	III	1i 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-73, .55-1(g)	I-D	NA	G	A
Isopropylamine	IPP	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.55-1(c)	I-D	NA	G	A
Pyridine	PRD	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(e)	I-D	NA	G	A
Sodium aluminate solution (45% or less)	SAU	Atmos.	Amb/Elev	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	NR	No	.50-73, .56-1(a), (b), (c)	NA	NA	G	A
Sodium chlorate solution (50% or less)	SDD	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.50-73	NA	NA	G	A
Sodium dichromate solution (70% or less)	SDL	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	Open	Closed	II	G-1	NR	Vent N	No	.50-5(d), .50-73, .56-1(b), (c)	NA	NA	G	A
Sodium hypochlorite solution (20% or less)	SHQ	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.50-73, .56-1(a), (b)	NA	NA	G	A
Sodium sulfide, hydrosulfide solution (H2S 15 ppm or less)	SSH	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.50-73, .55-1(b)	NA	NA	G	A
Sodium sulfide, hydrosulfide solution (H2S greater than 15 ppm but less than 200 ppm)	SSI	Atmos.	Amb.	III	1ii 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.50-73, .55-1(b)	NA	NA	G	A
Sodium sulfide, hydrosulfide solution (H2S greater than 200 ppm)	SSJ	Atmos.	Amb.	II	1ii 2i	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	No	.50-73, .55-1(b)	NA	NA	G	A
Sodium thiocyanate solution (56% or less)	STS	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.58-1(a)	NA	NA	G	A
Styrene monomer	STY	Atmos.	Amb.	III	1i 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-70(a), .50-81(a), (b)	I-D	NA	G	A
Tetrachloroethane	TEC	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	No	NA	NA	G	A
Tetraethylene pentamine	TTP	Atmos.	Amb.	III	1i 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(c)	I-C	NA	G	A
Tetrahydrofuran	THF	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(b)	I-C	NA	G	A
Toluenediamine	TDA	Atmos.	Elev.	II	1ii 2i	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-73, .56-1(a), (b), (c), (g)	NA	NA	G	A
o-Toluidine	TLI	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-5, .50-73	1-D	NA	G	A
1,2,4-Trichlorobenzene	TCB	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G	A
1,1,2-Trichloroethane	TCM	Atmos.	Amb.	III	1ii 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.50-73, .56-1(a)	I-D	NA	G	A
Trichloroethylene	TCL	Atmos.	Amb.	III	1i 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	No	I-D	NA	G	A

Cargo Identification				Hull Type	Cargo Seg Tank	Tanks			Cargo Transfer		Environmental Control		Fire Prot Req	Special Requirements	Elec Haz	Temp Cont	Tank Intl Insp Period	Tank Group
Name	Chem Code	Press.	Temp.			Type	Vent	Gauge	Pipe Clas	Cont	Tanks	Handling Space						
1,2,3-Trichloropropane	TCN	Atmos.	Amb.	II	1ii 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-73, .56-1(a)	I-D	NA	G	A
Triethanolamine	TEA	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(b)	I-C	NA	G	A
Triethylamine	TEN	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(e)	I-C	NA	G	A
Triethylenetetramine	TET	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(b)	I-C	NA	G	A
Triphenylborane (10% or less), caustic soda solution	TPB	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	NR	No	.56-1(a), (b), (c)	NA	NA	G	A
Trisodium phosphate solution	TSP	Atmos.	Amb/Elev	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	NR	No	.50-73, .56-1(a), (c).	NA	NA	G	A
Urea, Ammonium nitrate solution (containing more than 2% NH3)	UAS	Atmos.	Amb.	III	1i 2i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.56-1(b)	I-D	NA	G	A
Vanillin black liquor (free alkali content, 3% or more).	VBL	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	NR	No	.50-73, .56-1(a), (c), (g)	NA	NA	G	A
Vinyl acetate	VAM	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Open	II	G-1	NR	Vent F	Yes	.50-70(a), .50-81(a), (b)	I-D	NA	G	A
Vinyl neodecanoate	VND	Atmos.	Amb.	III	1i 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent F	Yes	.50-70(a), .50-81(a), (b)	I-D	NA	G	A
Vinyltoluene	VNT	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a), .50-81, .56-1(a), (b), (c), (g)	I-D	NA	G	A