

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

Certification Date:

15 Jan 2020

Expiration Date: 15 Jan 2021

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

HTCO 3144

1257044

Tank Barge

Hailing Port

HOUSTON, TX

Hull Material

Steel

Horsepower

Propulsion

UNITED STATES

Place Built

AMELIA, LA

Delivery Date

Keel Laid Date

Gross Tons

Net Tons

DWT

Length

17Nov2014 15Jul2014

R-1619 R-1619

R-297.5

1-0

UNITED STATES

Owner

HIGMAN BARGE LINES INC. 55 WAUGH DR SUITE 1000 HOUSTON, TX 77007 **UNITED STATES**

KIRBY INLAND MARINE LP 18350 Market Street 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 Second Mates

0 First Class Pilots 0 Radio Officers

0 First Assistant Engineers 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, COASTWISE, NOT MORE THAN TWELVE (12) MILES FROM SHORE BETWEEN ST. MARKS AND CARABELLE, FLORIDA.

THIS VESSEL HAS BEEN GRANTED A FRESH WATER SERVICE EXAMINATION INTERVAL IN ACCORDANCE WITH 46 CFR TABLE 31.10-21(B); 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.

IN ACCORDANCE WITH 46 CFR 39.1017 AND 39.5000(E) THIS VESSELS'S VCS HAS BEEN EVALUATED AND APPROVED FOR

SEE NEXT PAGE FOR ADDITIONAL CERTIFICATE INFORMATION

With this Inspection for Certification having been completed at New Orleans, UNITED STATES, the Officer in Charge, Marine Inspection, Sector New Orleans 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 Date Zone A/P/R Signature

This certified ate issu

COMMANDER, by direction

Officer in Charge, Marine Inspection

Sector New Orleans

Inspection Zone



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

Certification Date: 15 Jan 2020 **Expiration Date:** 15 Jan 2021

Temporary Certificate of Inspection

Vessel Name: HTCO 3144

MULTI-TANDEM LOADING WITH OTHER VESSELS SPECIFICALLY APPROVED TO TANDEM LOAD WITH THE VESSEL.

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 (TAP). Inspection issues concerning this barge should be directed to OCMI - Sector Houston-Galveston

---Hull Exams---

Exam Type

Next Exam

Last Exam

Prior Exam

DryDock

31Dec2024

03Dec2014

03Dec2014

Internal Structure

31Dec2024

08Jan2020

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

GRADE "A" AND LOWER AND SPECIFIED HAZARDOUS CARGOES

Total Capacity

Units

Highest Grade Type Part151 Regulated Part153 Regulated Part154 Regulated

OMB Approved No. 1625-0057

29300

Barrels

Α

Yes

No

No

Hazardous Bulk Solids Authority

Loading Constraints - Structural

Tank Number

Max Cargo Weight per Tank (short tons)

Maximum Density (lbs/gal)

1 P/S

817

12.5

2 P/S

814

12.5

3 P/S

682

12.5

Loading Constraints - Stability

Hull Type

Maximum Load

(short tons)

Maximum Draft

Max Density

Route Description

3723

(ft/in) 9ft 7in (lbs/gal)

12.5

Ш

4406

11ft Oin

12.5

Conditions Of Carriage

ONLY THOSE SPECIFIED HAZARDOUS CARGOES NAMED IN THE VESSEL'S CARGO AUTHORITY ATTACHMENT (CAA), SERIAL C1-1403551, DATED 09DEC2014 AND GRADE "A" AND LOWER CARGOES MAY BE CARRIED, AND THEN ONLY IN THE TANKS INDICATED.

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 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 REACTIVE GROUP NUMBERS FROM THE "COMPAT GROUP NO" COLUMN LISTED IN THE VESSEL'S CARGO AUTHORITY ATTACHMENT.

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 12.5 LBS/GAL, MAY BE CARRIED AS SLACK LOADS, BUT SHALL NOT EXCEED THE TANK WEIGHT LIMITS AS LISTED BELOW.

IN ACCORDANCE WITH 46 CFR PART 39, EXCLUDING PART 39.4000, THIS VESSEL'S VAPOR COLLECTION SYSTEM HAS BEEN INSPECTED TO THE PLANS APPROVED BY MARINE SAFETY CENTER LETTER C1-1403551

Dept. Of Home Sec., USCG - CG-854 (Rev. 06-04)

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

Certification Date: 15 Jan 2020 Expiration Date: 15 Jan 2021

Temporary Certificate of Inspection

Vessel Name: HTCO 3144

DATED DECEMBER 9, 2014, AND HAS BEEN FOUND ACCEPTABLE FOR THE COLLECTION OF BULK LIQUID CARGO VAPORS ANNOTATED WITH "YES" IN THE VCS COLUMN OF THE VESSEL'S CARGO AUTHORITY ATTACHMENT.

THE VCS SYSTEM HAS BEEN APPROVED WITH A PRESSURE SIDE 1.5 PSIG P/V VALVE WITH COAST GUARD APPROVAL 162.017/144/03. THE CARGO TANK TOP IS SUITABLE FOR A MAXIMUM ALLOWABLE WORKING PRESSURE (MAWP) OF 3 PSI.

--- Inspection Status ---

Cargo Tanks

| - | Internal Exan | า | | External Exa | m | |
|---------|---------------|-----------|------------|--------------|-------------|-------------|
| Tank Id | Previous | Last | Next | Previous | Last | Next |
| 1 P/S | - | 03Dec2014 | 03Dec2024 | ((元) | | # |
| 2 P/S | *** | 03Dec2014 | 03Dec2024 | 7= | | ### #### |
| 3 P/S | ¥. | 03Dec2014 | 03Dec2024 | œ | - | 2 |
| | | | Hydro Test | | | |
| Tank ld | Safety Valves | ; | Previous | Last | Next | |
| 2 P/S | ** | | (=) | * | ± = = | |
| | 4 | | | = | × | |
| 3 P/S | (e) | | | ~ | 021 | |

---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

B-II

END



Cargo Authority Attachment

Vessel Name: HTCO 3144 Official #: 1257044

Shipyard: Conrad

Hull #: C-1090

Serial #:

Dated:

C1-1403551

09-Dec-14

| 46 CFR 151 Tank (| | Chara dentificat | | tics | Cargo | 5 | Tanks | | Cargo Transfer | | | | | | Fire | Special Require | Special Requirements | | |
|---------------------------|---------|---------------------|------|-------------|------------|---------------------|-------|--------|-------------------|------|-------|-------------------|------------------------|---------------------------------------|---|-----------------|----------------------|--|--|
| Tnk Grp Tanks in Group | Density | Press | Temp | Hull Typ | Seq | Туре | Vent | Gauge | Pipe Class | Cont | Tanks | Handling Space | Protection Provided | General | Materials of Construction | Elec Haz | | | |
| A #1 P/S, #2 P/S, #3 P/S | 12.5 | Almos. | Amb. | II | 1li 2li | Integral Gravity | PV | Closed | 11 | G-1 | NR | NA | Portable | 50-5, .50-5(d), .50-60, .50-70(a), | 55-1(b), (c), (e), (f), (h), (j), 56-1(a), (b), | NR | No | | |

Notes: 1, Under Environmental Control, Tanks, NR means that the tank 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 Identification | n | | | | | | | Condi | tions of Carriage | |
|--|------|-----------------|---------|-------|------|-------|-------------------|----------|----------------------------------|--------|
| | Chem | Compat | Sub | | Hull | Tank | Vapor Ri App'd | VCS | Special Requirements in 46 CFR | Insp |
| Name | Code | Group No | Chapter | Grade | Туре | Group | (Y or N) | Category | 151 General and Mat'ls of | Period |
| Authorized Subchapter O Cargoes | | | | | | | | | | |
| Acetonitrile | ATN | 37 | 0 | С | Ш | Α | Yes | 3 | No | G |
| Acrylonitrile | ACN | 15 ² | 0 | С | 11 | Α | Yes | 4 | .50-70(a), .55-1(e) | G |
| Adiponitrile | ADN | 37 | 0 | Е | 11 | Α | Yes | 1 | No | G |
| Alkyl(C7-C9) nitrates | AKN | 34 2 | 0 | NA | 311 | Α | No | N/A | .50-81, .50-86 | G |
| Aminoethylethanolamine | AEE | 8 | 0 | Ε | .111 | Α | Yes | 1 | ,55-1(b) | G |
| Anthracene oil (Coal tar fraction) | AHO | 33 | 0 | NA | Ш | Α | No | N/A | No | G |
| Benzene | BNZ | 32 | 0 | С | 111 | Α | Yes | 1 | .50-60 | G |
| Benzene or hydrocarbon mixtures (having 10% Benzene or more) | внв | 32 ² | 0 | С | 111 | Α | Yes | 1 | 50-60 | G |
| Benzene or hydrocarbon mixtures (containing Acetylene and 10% Benzene or more) | ВНА | 32 2 | 0 | С | 111 | Α | Yes | 1 | .50-60, .56-1(b), (d), (f), (g) | G |
| Benzene, Toluene, Xylene mixtures (10% Benzene or more) | BTX | 32 | 0 | B/C | III | Α | Yes | 1 | .50-60 | G |
| Butyl acrylate (all isomers) | BAR | 14 | 0 | D | III | Α | Yes | 2 | .50-70(a), .50-81(a), (b) | G |
| Butyl methacrylate | вмн | 14 | 0 | D | Ш | Α | Yes | 2 | .50-70(a), .50-81(a), (b) | G |
| Butyraldehyde (all isomers) | BAE | 19 | 0 | С | 111 | Α | Yes | 1 | 55-1(h) | G |
| Camphor oil (light) | CPO | 18 | 0 | D | Ш | Α | No | N/A | No | G |
| Chemical Oil (refined, containing phenolics) | COD | 21 | 0 | Е | 11 | Α | No | N/A | 50-73 | G |
| Chlorobenzene | CRB | 36 | 0 | D | 111 | Α | Yes | 1 | No | G |
| Chloroform | CRF | 36 | 0 | NA | H) | Α | Yes | 3 | No | G |
| Coal tar naphtha solvent | NCT | 33 | 0 | D | Ш | Α | Yes | 1 | .50-73 | G |
| Creosote | CCW | 21 2 | 0 | Ε | 111 | Α | Yes | 1 | No | (G |
| Cresols (all isomers) | CRS | 21 | 0 | E | III | Α | Yes | 1 | No | G |
| Cresylate spent caustic | CSC | 5 | 0 | NA | Ш | Α | No | N/A | 50-73, 55-1(b) | G |
| Cresylic acid tar | CRX | 21 | 0 | Ε | Ш | Α | Yes | 1 | .55-1(f) | G |
| Crotonaldehyde | СТА | 19 ² | 0 | С | 11 | Α | Yes | 4 | 55-1(h) | G |
| Crude hydrocarbon feedstock (containing Butyraldehydes and Ethylpropyl acrolein) | CHG | | 0 | С | Ш | Α | Yes | đ | No | G |
| Cyclohexanone | CCH | 18 | 0 | D | HE | Α | Yes | 1 | .56-1(a), (b) | G |
| Cyclohexanone, Cyclohexanol mixture | CYX | 18 2 | 0 | Ε | Ш | Α | Yes | 1 | 56-1 (b) | G |
| Cyclopentadiene, Styrene, Benzene mixture | CSB | 30 | 0 | D | 111 | Α | Yes | 1 | 50-60, 56-1(b) | G |
| iso-Decyl acrylate | IAL | 14 | 0 | Е | 111 | Α | Yes | 2 | 50-70(a), 50-81(a), (b), 55-1(c) | G |
| Dichlorobenzene (all isomers) | DBX | 36 | 0 | Е | m | Α | Yes | 3 | 56-1(a), (b) | G |
| 1,1-Dichloroethane | DCH | 36 | 0 | С | 111 | Α | Yes | 1 | No | G |
| 2,2'-Dichloroethyl ether | DEE | 41 | 0 | D | H | Α | Yes | 1 | .55-1(f) | G |
| Dichloromethane | DCM | 36 | 0 | NA | 111 | Α | Yes | 5 | No | G |
| 1,1-Dichloropropane | DPB | 36 | 0 | С | 111 | Α | Yes | 3 | No | G |



Serial #: C1-1403551

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Certificate of Inspection

Cargo Authority Attachment

Vessel Name: HTCO 3144 Official #: 1257044

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Shipyard: Conrad

Hull #: C-1090

| | | , , , , , , , , , , , , , , , , , , , | Page 2 | of 7 | | | | | Hull #: C-1090 | |
|--|--------|---------------------------------------|---------------|---------|--------------|---------------|-------------------|-----------------|--|----------------|
| Cargo Identific | cation | | | | | | | Cond | itions of Carriage | |
| | | | | | | | | Recovery | - Carriage | |
| Name | Chem | Compat Group No | Sub Chapte | r Grade | Hull Type | Tank Group | App'd (Y or N) | VCS Category | Special Requirements in 46 CFR 151 General and Mat'ls of | Insp. Perio |
| 1,2-Dichloropropane 1,3-Dichloropropane | DPP | | 0 | С | 111 | А | Yes | 3 | No | G |
| 1,3-Dichloropropene | DPC | 36 | 0 | С | HI | Α | Yes | 3 | No | G |
| | DPU | 15 | 0 | D | Н | Α | Yes | 4 | No | G |
| Dichloropropene, Dichloropropane mixtures Diethanolamine | DMX | 15 | 0 | С | 11 | Α | Yes | 1 | No | G |
| Diethylamine | DEA | 8 | 0 | E | Ш | Α | Yes | 1 | ,55-1(c) | G |
| | DEN | 7 | 0 | С | - 111 | Α | Yes | 3 | .55-1(c) | G |
| Diethylenetriamine | DET | 7 2 | 0 | Е | 111 | Α | Yes | 1 | .55-1(c) | G |
| Diisobutylamine | DBU | 7 | 0 | D | 111 | Α | Yes | 3 | ,55-1(c) | G |
| Diisopropanolamine | DIP | 8 | 0 | E | Ш | Α | Yes | 1 | 55-1(c) | G |
| Diisopropylamine | DIA | 7 | 0 | С | П | Α | Yes | 3 | 55-1(c) | G |
| N,N-Dimethylacetamide | DAC | 10 | 0 | Е | 111 | Α | Yes | 3 | 56-1(b) | G |
| Dimethylformamide | DMF | 10 | 0 | D | III | Α | Yes | 1 | 55-1(e) | G |
| Di-n-propylamine | DNA | 7 | 0 | Ç | 11 | Α | Yes | 3 | .55-1(c) | |
| Dodecyldimethylamine, Tetradecyldimethylamine mixture | DOT | 7 | 0 | Е | 111 | Α | No | N/A | .56-1(b) | G |
| Dodecyl diphenyl ether disulfonate solution | DOS | 43 | 0 | # | Н | Α | No | N/A | No | G |
| EE Glycol Ether Mixture | EEG | 40 | 0 | D | Ш | Α | No | N/A | No. | G |
| Ethanolamine | MEA | 8 | 0 | E | 111 | A | Yes | 1 | .55-1(e) | G |
| Ethyl acrylate | EAC | 14 | 0 | С | 111 | A | Yes | 2 | 50-70(a), 50-81(a), (b) | G |
| Ethylamine solution (72% or less) | EAN | 7 | 0 | Α | 11 | A | Yes | 6 | .55-1(b) | G |
| N-Ethylbutylamine | EBA | 7 | 0 | D | 111 | A | Yes | 3 | .55-1(b) | Ğ |
| N-Ethylcyclohexylamine | ECC | 7 | 0 | D | 111 | A | | | 55-1(b) | G |
| Ethylene cyanohydrin | ETC | 20 | 0 | E | 111 | A | Yes | 1 | No No | G |
| Ethylenediamine | EDA | 7 2 | 0 | D | 111 | | Yes | 1 | 55-1(c) | G |
| Ethylene dichloride | EDC | 36 ² | 0 | С | 111 | A | Yes | 1 | No No | G |
| Ethylene glycol hexyl ether | EGH | 40 | 0 | E | 111 | A | Yes | 1 | No | G |
| Ethylene glycol monoalkyl ethers | EGC | 40 | 0 | D/E | 111 | A | No | N/A | | G |
| Ethylene glycol propyl ether | EGP | 40 | 0 | E | 111 | A | Yes | 1 | No | G |
| 2-Ethylhexyl acrylate | EAI | 14 | 0 | E | 111 | | Yes | 1 | No | G |
| Ethyl methacrylate | ETM | 14 | 0 | D/E | 10 | A | Yes | 2 | 50-70(a), 150-81(a), (b) | G |
| 2-Ethyl-3-propylacrolein | EPA | 19 2 | 0 | E | | A | Yes | 2 | 50-70(a) | G |
| Formaldehyde solution (37% to 50%) | FMS | 19 2 | 0 | D/E | III | A | Yes | 1 | No | G |
| Furfural | FFA | 19 | | D | III | Α | Yes | 1 | 55-1(h) | G |
| Glutaraldehyde solution (50% or less) | GTA | 19 | | | 111 | A | Yes | 1 | .55-1(lı) | G |
| Hexamethylenediamine solution | HMC | 7 | | NA E | 111 | A | No | N/A | No | G |
| Hydrocarbon 5-9 | HFN | , | | C | 111 | A | Yes | 1 | 55-1(c) | G |
| Isoprene | IPR | 30 | | | 111 | A | Yes | 1 | .50-70(a), 50-81(a), (b) | G |
| soprene, Pentadiene mixture | IPN | 30 | | A | Ш | A | Yes | 7 | 50-70(a), 50-81(a), (b) | G |
| Mesityl oxide | MSO | 18 ² | | В | 111 | A | No | N/A | | G |
| Methyl acrylate | MAM | | | D | III | A | Yes | 1 | No | G |
| Methylcyclopentadiene dimer | | 14 | | С | Ш | Α | Yes | 2 | .50-70(a), 50-81(a), (b) | G |
| R-Methyl-5-ethylpyridine | MCK | 30 | | C | HF. | A | Yes | 1 | No | G |
| Methyl methacrylate | MEP | 9 | | | 111 | A | Yes | | 55-1(e) | G |
| -Methylpyridine | MMM | | | | III | A | Yes | | | G |
| lpha-Methylstyrene | MPR | | | | HI | Α | Yes | 3 | 55-1(c) | G |
| Morpholine | MSR | | | | 101 | Α | Yes | 2 | 50-70(a), 50-81(a), (b) | G |
| itroethane | MPL | | 0 [| | | Α | Yes | 1 | 55-1(c) | G |
| or 2-Nitropropane | NTE | | 0 [| | | Α | No | N/A | 50-81, 56-1(b) | G |
| 3-Pentadiene | NPM | | 0 [| | | Α | Yes | 1. | 50-81 | G |
| | PDE | 30 | O A | . | H | Α | Yes | 7 | 50-70(a), 50-81 | 3 |



Cargo Authority Attachment

Vessel Name: HTCO 3144 Official #: 1257044

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Shipyard: Conrad

Hull #: C-1090

Serial #: C1-1403551

09-Dec-14

Dated:

| Cargo Identification | n | | | | | | (| Condi | tions of Carriage | |
|---|------|--------------------|---------------|----------|--------------|---------------|-------------------|-----------------|--|----------------|
| | | | | | | | | ecovery | | 1 |
| Name | Chem | Compat Group No | Sub Chapte | Grade | Hull Type | Tank Group | App'd (Y or N) | VCS Calegory | Special Requirements in 46 CFR 151 General and Mat'ls of | Insp. Perio |
| Polyethylene polyamines | PEB | 7 2 | 0 | Е | 111 | А | Yes | 1 | .55-1(e) | G |
| iso-Propanolamine | MPA | 8 | 0 | E | 111 | Α | Yes | 1 | .55-1(c) | G |
| iso-Propylamine | IPP | 7 | 0 | Α | Ш | Α | Yes | 5 | .55-1(c) | G |
| Pyridine | PRD | 9 | 0 | С | Ш | Α | Yes | 1 | .55-1(e) | G |
| Pyrolysis Gasoline | GPY | 32 | 0 | D | II | Α | Yes | 1 | .50-5, .50-60 | G |
| Sodium chlorate solution (50% or less) | SDD | 0 1,2 | 0 | NA | _ 111 | Α | No | N/A | .50-73 | G |
| Sodium hypochlorite solution (20% or less) | SHQ | 5 | 0 | NA | IH | Α | 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 | H | Α | Yes | 1 | 50-73, 55-1(b) | G |
| Sodium sulfide, hydrosulfide solution (H2S greater than 15 ppm but less than 200 ppm) | SSI | 0 1,2 | 0 | NA | Ш | 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 | Ш | Α | Yes | 2 | .50-70(a), .50-81(a), (b) | G |
| Tetraethylenepentamine | TTP | 7 | 0 | E | III | A | Yes | 1 | 55-1(c) | G |
| Tetrahydrofuran | THF | 41 | 0 | C | Ш | Α | Yes | 1 | 50-70(b) | G |
| o-Toluidine | TLI | 9 | 0 | E | Н | A | Yes | 3 | ,50-5, ,50-73 | G |
| 1,2,4-Trichlorobenzene | ТСВ | 36 | 0 | E | 111 | A | Yes | 1 | No | G |
| 1,1,2-Trichloroethane | TCM | 36 | 0 | NA | HI | Α | Yes | 1 | 50-73, 56-1(a) | |
| Trichloroethylene | TCL | 36 ² | 0 | NA | 111 | A | Yes | 1 | No | G G |
| 1,2,3-Trichloropropane | TCN | 36 | 0 | E | 0 | A | Yes | 3 | ,50-73, .56-1(a) | |
| Triethanolamine | TEA | 8 2 | 0 | E | III | A | Yes | 1 | ,55-1(b) | G |
| Triethylamine | TEN | 7 | 0 | C | 11 | A | Yes | 3 | 55-1(e) | G |
| Triethylenetetramine | TET | 7 2 | 0 | E | 111 | A | Yes | 1 | 55-1(b) | G |
| Urea, Ammonium nitrate solution (containing more than 2% NH3) | UAS | 6 | 0 | NA | 111 | A | No | N/A | 56-1(b) | G |
| Vinyl acetate | VAM | 13 | 0 | C | 111 | A | Yes | 2 | .50-70(a), 50-81(a), (b) | G |
| Vinyl neodecanate | VND | 13 | 0 | E | Ш | A | No | N/A | 50-70(a), 50-81(a), (b) | G |
| Subchapter D Cargoes Authorized for Vapor Contro | vi | | _ | | | | | | | |
| Acetone | ACT | 18 ² | D | С | | A | Yes | 1 | | |
| Acetophenone | ACP | 18 | D | E | | | | | | |
| 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 | | | | | | |
| Amyl acetate (all isomers) | AEC | 34 | | D | | A | Yes | Ů. | | |
| Amyl alcohol (iso-, n-, sec-, primary) | AAI | 20 | | D | | A | Yes | 1 | | |
| Benzyl alcohol | BAL | 21 | | 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 heir borate esters) | BFX | 20 | | E | | A | Yes | 1 | | |
| Butyl acetate (all isomers) | BAX | 34 | D | D | | A | Yes | 4 | | |
| Butyl alcohol (iso-) | IAL | 20 2 | | D | | A | Yes | 1 | | |
| Butyl alcohol (n-) | BAN | 20 2 | | D | | A | Yes | 9 | | |
| Butyl alcohol (sec-) | BAS | 20 2 | | C | - | A | Yes | 4 | | |
| Butyl alcohol (tert-) | BAT | 20 2 | | 0 | | A | | | | |
| utyl benzyl phthalate | BPH | | | Ξ | | A | Yes | 1 | | |
| sutyl toluene | BUE | | | = D | | | Yes | 1 | | |
| aprolactam solutions | CLS | | | | | A | Yes | 1 | | |
| and a base of the same of the | CHX | | | | | A | Yes | 1 | | |
| | CHN | | | | | A | Yes | 1 | | |
| | CPD | | | E D/E | | A A | Yes Yes | 1 | | |



res Coast Guard

Serial #: C1-1403551

Dated: 09-Dec-14

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: HTCO 3144 Official #: 1257044

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Shipyard: Conrad Hull #: C-1090

| Cargo Identific | ation | | | | | | | Condi | tions of Carriage | |
|--|------------|--------|-------|------------|---------|----|-------|-----------------|---|-------|
| | Che | m Comp | al 5 | Sub | | | Vapor | Recovery | | T |
| Name | Cod | | No Ch | apter Grad | de Type | | | VCS Category | Special Requirements in 46 CFR 151 General and Mat'ls of | Insp |
| p-Cymene | CM | P 32 | D |) D | | A | | | Walter Wat 13 Of | Perio |
| iso-Decaldehyde | IDA | | D | | | A | Yes | - 1 | | |
| n-Decaldehyde | DAL | 1100 | D | 1777 | | A | Yes | 1 | | |
| Decene | DCE | | D | | | A | Yes | 1 | | |
| Decyl alcohol (all isomers) | DAX | | D | | | A | Yes | 1 | | |
| n-Decylbenzene, see Alkyl(C9+)benzenes | DBZ | | D | | | A | Yes | 1 | | |
| Diacetone alcohol | DAA | | D | | | | Yes | 1 | | |
| ortho-Dibutyl phthalate | DPA | | D | | | A | Yes | 1 | | |
| Diethylbenzene | DEB | 32 | D | D | | A | Yes | | | |
| Diethylene glycol | DEG | | D | E | | A | Yes | 1 | | |
| Diisobutylene | DBL | 30 | D | C | | A | Yes | 11 | | |
| Diisobutyl ketone | DIK | 18 | D | | | A | Yes | 1 | | |
| Diisopropylbenzene (all isomers) | DIX | 32 | D | | | A | Yes | 1 | | |
| Dimethyl phthalate | DTL | 34 | | E | | A | Yes | 1 | | |
| Dioctyl phthalate | DOP | 34 | D | E | | Α | Yes | 1 | | |
| Dipentene | DPN | 30 | D | _ E | | Α | Yes | 1 | | |
| Diphenyl | DIL | 32 | D | D D/5 | | Α | Yes | 1 | | |
| Diphenyl, Diphenyl ether mixtures | DDO | | D | D/E | | A | Yes | 1 | | |
| Diphenyl ether | DPE | 33 | D | E | | Α | Yes | 1 | | |
| Dipropylene glycol | DPG | 41 | D | {E} | | Α. | Yes | 1 | | |
| Distillates: Flashed feed stocks | DFF | | D | E | | Α | Yes | 1 | | |
| Distillates: Straight run | DSR | 33 | D | E | | Α | Yes | 1 | | |
| Podecene (all isomers) | DOZ | 33 | D | E | | Α | Yes | 1 | | |
| Dodecylbenzene, see Alkyl(C9+)benzenes | DDB | 30 | D | D | | Α | Yes | 1 | | |
| -Ethoxyethyl acetate | | 32 | D | E | | A | Yes | 1 | | |
| thoxy triglycol (crude) | EEA ETG | 34 | D | D | | Α | Yes | 1 | | |
| thyl acetate | | 40 | D | E | | Α | Yes | 1 | | |
| thyl acetoacetate | ETA | 34 | D | С | | Α | Yes | 1 | | |
| thyl alcohol | EAA | 34 | D | Е | | Α | Yes | 1 | | |
| thylbenzene | EAL | 20 % | D | С | | Α | Yes | 1 | | |
| thyl butanol | ETB | 32 | D | С | | Α | Yes | 1 | | |
| hyl tert-butyl ether | EBT | 20 | D | D | | Α | Yes | 1 | | |
| hyl butyrate | EBE | 41 | D | С | | Α | Yes | 1 | | |
| hyl cyclohexane | EBR | 34 | D | D | | Α | Yes | 1 | | |
| hylene glycol | ECY | 31 | D | D | | Α | Yes | 1 | | |
| hylene glycol butyl ether acetate | EGL | 20 2 | D | E | | Α | Yes | 1 | | |
| nylene glycol diacetate | EMA | 34 | D | E | | Α | Yes | 1 | | |
| nylene glycol phenyl ether | EGY | 34 | D | E | | Α | Yes | 1 | | |
| nyl-3-ethoxypropionate | EPE | 40 | D | E | | А | Yes | 1 | | |
| Ethylhexanol | EEP | 34 | D | D | | А | Yes | 1 | | |
| nyl propionate | EHX | 20 | D | E | | Α | Yes | 1 | | |
| yl toluene | EPR | 34 | D | С | | A | Yes | 1 | | |
| mamide | ETE | 32 | D | D | | A | Yes | 1 | | |
| furyl alcohol | FAM | 10 | D | E | , | A | Yes | 1 | | |
| soline blending stocks: Alkylates | FAL | 20 2 | D | E | / | Д | | 1 | | |
| soline blending stocks: Alkylates | GAK | | D | A/C | A | 4 | Yes | 1 | | |
| colines: Automotive (containing | GRF | 33 | D | A/C | 1 | | | 1 | | - |
| colines: Automotive (containing not over 4.23 grams lead per | GAT | 33 | D | С | A | | | 1 | | |



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Shipyard: Conrad

Hull #: C-1090

Dated: 09-Dec-14

| Cargo Identificati | ion | | | | | | | Condi | tions of Carriage | |
|---|--------------|--------------------|----------------|-------|--------------|---------------|-------------------|-----------------|--|-----------------|
| | | | | | | | Vapor I | 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 |
| Gasolines: Aviation (containing not over 4,86 grams of lead per gallon) | GAV | 33 | D | С | | А | Yes | 16 | | |
| Gasolines: Casinghead (natural) | GCS | 33 | D | A/C | | Α | Yes | 1 | | |
| Gasolines: Polymer | GPL | 33 | D | A/C | | Α | Yes | 1 | | |
| Gasolines: Straight run | GSR | 33 | D | A/C | | Α | Yes | 1 | | |
| Glycerine | GCR | 20 ² | D | Е | | Α | Yes | 1 | | |
| Heptane (all isomers), see Alkanes (C6-C9) (all isomers) | HMX | 31 | D | С | | Α | Yes | 1 | | |
| Heptanoic acid | HEP | 4 | D | E | | Α | Yes | 1 | | |
| Heptanol (all isomers) | HTX | 20 | D | D/E | | Α | Yes | 1 | | |
| Heptene (all isomers) | HPX | 30 | D | С | | Α | Yes | 2 | | |
| Heptyl acetate | HPE | 34 | D | E | | Α | Yes | 1 | | |
| Hexane (all isomers), see Alkanes (C6-C9) | HXS | 31 ² | D | B/C | | Α | Yes | 1 | | |
| Hexanoic acid | НХО | 4 | D | E | | Α | Yes | 1 | | |
| Hexanol | HXN | 20 | D | D | | A | Yes | 1 | | |
| Hexene (all isomers) | HEX | 30 | D | С | | Α | 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 | | Α | 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 | С | | A | Yes | 1 | | |
| Methylamyl acetate | MAC | 34 | D | D | | A | Yes | 1 | | |
| Methylamyl alcohol | MAA | 20 | D | D | | A | Yes | Ť | | |
| Methyl amyl ketone | MAK | 18 | D | D | | A | Yes | 48 | | |
| Methyl tert-butyl ether | MBE | 41 2 | D | C | | A | Yes | 1 | | |
| Methyl butyl ketone | MBK | 18 | D | С | | A | Yes | 1 | | |
| Methyl butyrate | MBU | 34 | D | С | | A | Yes | 1 | | |
| Methyl ethyl ketone | MEK | 18 ² | D | С | | A | Yes | 1 | | |
| Methyl heptyl ketone | MHK | 18 | D | D | | A | Yes | 4 | | |
| Methyl isobutyl ketone | MIK | 18 ² | D | С | | A | Yes | 4 | | |
| Methyl naphthalene (molten) | MNA | 32 | D | E | | A | Yes | - 4 | | |
| Mineral spirits | MNS | 33 | D | D | | A | Yes | *\ ** | | |
| Myrcene | MRE | 30 | D | D | | A | Yes | 1 | | |
| Naphtha: Heavy | NAG | 33 | D | # | | A | Yes | 1 | | |
| Naphtha: Petroleum | PTN | 33 | D | # | | A | Yes | 1 | | |
| Naphtha: Solvent | NSV | 33 | D | D D | | | | | | |
| Naphtha: Stoddard solvent | NSS | 33 | | D | | A | Yes | 1 | | |
| Naphtha: Varnish makers and painters (75%) | NVM | 33 | 111.5 | C | | Α | Yes | 1 (1) | | |
| Nonane (all isomers), see Alkanes (C6-C9) | NAX | 31 | | | | A | Yes | 1) | | |
| Nonene (all isomers) | | | | D | | Α | Yes | 1 | | |
| Nonyl alcohol (all isomers) | NON | 30 | | D | | Α | Yes | 2 | | |
| Nonyl phenol | NNS | 20 2 | | E | | A | Yes | 1 | | |
| Nonyl phenol poly(4+)ethoxylates | NNP | 21 | | E | | A | Yes | 1 | | |
| Octane (all isomers), see Alkanes (C6-C9) | NPE | 40 | | E | | A | Yes | 1 | | |
| Octanoic acid (all isomers) | OAX | 31 | | С | | A | Yes | 1 | | |
| Octanoic acio (all isomers) Octanoi (all isomers) | OAY | 4 | | E | | A | Yes | 1 | | |
| | OCX | 20 ² | | E | | A | Yes | 1 | | |
| Octene (all isomers) | OTX | 30 | D | С | | A | Yes | 2 | | |



Cargo Authority Attachment

Vessel Name: HTCO 3144 Official #: 1257044

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Shipyard: Conrad

Hull #: C-1090

Serial #: C1-1403551

09-Dec-14

| Cargo Identifi | cation | | | | | | | Condi | tions of Carriage | |
|---|--------|----------|----------------|-------|--------------|---------------|-------------------|-----------------|--|-----------------|
| | Chem | Compat | 0.1 | | | | Vapor F | Recovery | | T |
| Name | Code | 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'is of | Insp. Period |
| Oil, fuel: No. 2 | OTW | 33 | D | D/E | | Α | Yes | 1 | | renoc |
| 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 | E | | A | Yes | 1 | | |
| Oll, misc: Crude | OIL | 33 | D | A/D | | A | | 91 | | |
| Oil, misc: Diesel | ODS | 33 | D | D/E | | | Yes | - 1 | | |
| Oil, misc: Gas, high pour | OGP | 33 | D | E | | Α | Yes | 1 | | |
| Oil, misc: Lubricating | OLB | 33 | D | E | - | A | Yes | 1 | | |
| Oil, misc: Residual | ORL | | | | | A | Yes | 1 | | |
| Oil, misc: Turbine | OTB | 33 | D | E | | A | Yes | 1 | | |
| Pentane (all isomers) | | 33 | D | E | | Α | Yes | | | |
| Pentene (all isomers) | PTY | 31 | D | A | | A | Yes | 5 | | |
| n-Pentyl propionate | PTX | 30 | D | Α | | Α | Yes | 5 | | |
| alpha-Pinene | PPE | 34 | D | D | | А | Yes | 1 | | |
| beta-Pinene | PIO | 30 | D | D | | Α | Yes | 1 | | |
| Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether | PIP | 30 | D | D | | Α | Yes | 1 | | |
| | PAG | 40 | D | E | | Α | Yes | 1 | | |
| Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate | PAF | 34 | D | Е | | Α | Yes | 1 | | |
| | PLB | 30 | D | E | | Α | Yes | 1 | | |
| Polypropylene glycol | PGC | 40 | D | E | | Α | Yes | 1 | | |
| iso-Propyl acetate | IAC | 34 | D | С | | Α | Yes | 1 | | |
| n-Propyl acetate | PAT | 34 | D | С | | Α | Yes | 1 | | |
| iso-Propyl alcohol | IPA | 20 2 | D | С | | Α | Yes | 1 | | |
| n-Propyl alcohol | PAL | 20 2 | D | С | | Α | Yes | 1 | | |
| Propylbenzene (all isomers) | PBY | 32 | D | D | | Α | Yes | 1 | | |
| iso-Propylcyclohexane | IPX | 31 | D | D | | Α | Yes | 1 | | |
| Propylene glycol | PPG | 20 2 | D | E | | Α | Yes | 1 | | |
| Propylene glycol methyl ether acetate | PGN | 34 | D . | D | | Α | Yes | 1 | | |
| Propylene tetramer | PTT | 30 | D | D | | Α | Yes | 1 | | |
| Sulfolane | SFL | 39 | D | = | | Α | Yes | 4 | | |
| Tetraethylene glycol | TTG | 40 | D I | = | | Α | Yes | 1 | | |
| Tetrahydronaphthalene | THN | 32 | D E | | | A | Yes | 9 | | - |
| Toluene | TOL | 32 | D (| 2 | | A | Yes | 1 | | |
| ricresyl phosphate (less than 1% of the ortho isomer) | TCP | 34 | D E | | | A | Yes | 1 | | |
| riethylbenzene | TEB | | D E | | | A | Yes | 1 | | |
| riethylene glycol | TEG | | D E | | | A | Yes | 1 | | |
| riethyl phosphate | TPS | | D E | | | A | Yes | | | |
| rimethylbenzene (all isomers) | TRE | | | | | A | | 1 | | |
| rixylenyl phosphate | TRP | | D E | D} | | A | Yes | 1 | | |
| ndecene | UDC | | |)/E | | | Yes | | | |
| -Undecyl alcohol | UND | | DE | | | A | Yes | 1 | | |
| ylenes (ortho-, mela-, para-) | XLX | | | | | A | Yes | 1 | | |



Serial #:

C1-1403551

09-Dec-14

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: HTCO 3144 Official #: 1257044

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Shipyard: Conrad

Hull #: C-1090

Explanation of terms & symbols used in the Table:

Cargo Identification

Chem Code

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 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, 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 Problems (Chart. For additional compatibility information, contact Commandant (CG-3PSO-3), U.S. Coast Guard, 2100 Second. Street, SW, Washington, DC. 20593-0001. Telephone

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

Subchapter Subchapter D 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.

A, B, C D, E

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 Hat grade of cargo.
Flammable liquid cargoes, as defined in 46 CFR 30-10.22.
Combustible liquid cargoes, as defined in 46 CFR 30-10.15.
Combustible liquid cargoes, as defined in 46 CFR 30-10.15.

Note 4 NA

Combissione liquio cargoes, as defined in 40 CPR 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

NA

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 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 Vapor Recover Approved (Y or N)

The vessel's lank group (as defined in Section 4) 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.

Conditions of Carriage

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 Calegory: Calegory 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 densities and vapor growth rates.

Category 2

(Polymerizas) 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

Category 3

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. (Highly loxic) 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 4

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.

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 loxic) 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