

CryoChem Inc.

P. O. Box 32, Boyertown, Pa. 19512

TWX 510 651-4487
(CRYOCHEM BYWN)

Area Code 215 689-9531

September 15, 1978

Day and Zimmermann, Inc.
1818 Market Street
Philadelphia, PA 19103

Attention: Mr. T. Zuhl

Gentlemen:

Reference: Your #30321 01
Our #5292

Enclosed, herewith, you will find two copies of the Data Sheet covering the Pressure Vessel supplied on the above purchase order.

Very truly yours,

CRYOCHEM, INC.

J. G. Stasik, Jr.
J. G. Stasik, Jr. *dmh*

JGS/dmh

Enclosures



COLORITE 009177

#5292
Item DA-1C

FORM U-1A MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS
(Alternate Form for Single Chamber, Completely Shop-Fabricated Vessels Only)
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured by CryoChem, Inc., Boyertown, PA
2. Manufactured for Day & Zimmermann, Philadelphia, PA
3. Location of Installation Tenneco Chemicals, Inc., Burlington, NJ
4. Type Vert. Tank (Horiz. or vert. tank) 1363 (Mfg's Serial No.) 5292-C1 18 03 (CRN) 1363 (Drawing No.) 1978 (Year Built)
5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 1977 and Addenda to 1973/77 and Code Case Nos. N.A.
Special Service per UG-120(d) N.A.
Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: N.A.

6. Shell: Matl. SA-240-316ELC (Spec. No., Grade) 3/16 (Nom. Thk.) 0 (Corr. in. Allow.) in. Diam. 24 in. Lgth. 25 ft 6 in.
7. Seams: Long. Welded dbl butt R.T. spot (Welded, Dbl. Sqgl. Lap, Butt) (Spot or Full) Efficiency 85 % H.T. Temp. --- F Time --- hr
Girth Welded dbl. butt & Fig. 48(3) (Welded, Dbl. Sqgl. Lap, Butt) (Spot, Partial or Full) R.T. spot No. of Courses 8
8. Heads: (a) Material SA-240-316ELC (Spec. No., Grade) (b) Material SA-240-316ELC (Spec. No., Grade)

	Location (Top Bottom Ends)	Min Thk	Corr Allow	Crown Radius	Knuckle Radius	Ellipse Ratio	Conical Apex Angle	Hemisp Radius	Flat Diam	Side to Pressure (Convex or Concave)
(a)	Top	1/8	0	24	1 1/2	---	---	---	---	concave
(b)	Bottom	1/8	0	24	1 1/2	---	---	---	---	concave

If removable, bolts used (describe other fastenings) SA-193-B7 1 1/4 (20) (Material, Spec. No., Gr., Size, No.)

9. Constructed for max. allowable working pressure F.V. & 40 (Material, Spec. No., Gr., Size, No.) psi at max temp 250 F. Min. temp. (when less than -20 F) --- F. Hydrostatic, pneumatic, or combination test pressure 70 psi.
10. Safety Valve Outlets: Number 1 Size 3 Location top head
11. Nozzles and Inspection Openings.

Purpose (Inlet, Outlet, Drain)	No.	Diam or Size	Type	Matl.	Nom Thk.	Reinforcement Matl.	How Attached	Location
Outlet	1	6	flange	SA-312-316	.280	Integral	welded	T. Head
Inlet	2	4	flange	SA-312-316	.237	Integral	welded	shell
Inspection	3	3	PAD	SA-240-316	1.25	Integral	welded	shell
Inlet	1	3	flange	SA-312-316	.216	Integral	welded	shell
Outlet	1	3	flange	SA-312-316	.216	Integral	welded	B. Head
Inspection	12	1	flange	SA-312-316	.133	Integral	welded	shell
Inlet	1	3/4	flange	SA-312-316	.113	Integral	welded	shell
Inspection	2	1/2	Cplg.	SA-479-316	.143	Integral	welded	shell

12. Supports: Skin Yes Lugs --- Legs --- Other --- Attached Welded to B. Head (Where and how)
13. Remarks: Unit is a water stripper column for non-lethal, non-corrosive service.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.
Date 8-15-78 Signed CryoChem, Inc. (Manufacturer) by J. K. Shuck Jr. (Representative)
"U" Certificate of Authorization No. #5876 expires January 31, 1981

CERTIFICATE OF SHOP INSPECTION

Vessel made by CryoChem, Inc. at Boyertown, PA
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of PA and employed by H.S.B.I. & I. Co. have inspected the pressure vessel described in this Manufacturers' Data Report on 8-15-78 and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in the Manufacturers' Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Signed William J. Spurr (Inspector) Date 8-15-78 Commissions N.B. 4607 PA 1695 (Nat'l Board, State, Province and No.)

COLORITE 009178

#5292
Item DA-1C

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1. Manufactured by CryoChem, Inc., Boyertown, PA
2. Manufactured for Day & Zimmermann, Philadelphia, PA
3. Location of Installation Tenneco Chemicals, Inc., Burlington, NJ
4. Type Vert. Tank 1363 5292-01 to 03 1363 (Year Built) 1978
(Monz. or vert. tank) (Mfr's Serial No.) (CRN) (Drawing No.) (Net I Bld No.)
5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 1977 and Addenda to 7731/77 and Code Case Nos. N.A.
(Year) (Date)
Special Service per UG-120(d) N.A.
Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: N.A.
6. Shell: Matl. SA-240-316ELC Nom. Thk. 3/16 in. Allow. 0 in. Diam. 24 in. Lgth. 25 ft 6 in.
(Spec. No., Grade)
7. Seams: Long Welded dbl butt R.T. spot Efficiency 85 % H.T. Temp. --- F Time --- hr
(Welded, Dbl. Sq. Lap, Butt) (Spot or Full)
Girth Welded dbl. butt & Fig. 48(3) R.T. spot No. of Courses 8
(Welded, Dbl. Sq. Lap, Butt) (Spot, Partial, or Full)
8. Heads: (a) Material SA-240-316ELC (b) Material SA-240-316ELC
(Spec. No., Grade) (Spec. No., Grade)

Location (Top, Bottom, Ends)	Min Thk.	Corr. Allow.	Crown Radius	Knuckle Radius	Ellipse Ratio	Conical Apex Angle	Hemisp Radius	Flat Diam	Side to Pressure (Convex or Concave)
(a) Top	<u>1/8</u>	<u>0</u>	<u>24</u>	<u>1 1/2</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>concave</u>
(b) Bottom	<u>1/8</u>	<u>0</u>	<u>24</u>	<u>1 1/2</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>concave</u>

If removable, bolts used (describe other fastenings) SA-193-B7 1 1/2 (20)
(Material, Spec. No., Gr. Size, No.)
9. Constructed for max. allowable working pressure F.V. & 40 psi at max. temp. 2500 F. Min. temp. (when less than -20 F) --- F. Hydrostatic, pneumatic, or combination test pressure 70 psi.
10. Safety Valve Outlets: Number 1 Size 3 Location top head
11. Nozzles and Inspection Openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam or Size	Type	Matl.	Nom Thk.	Reinforcement Matl.	How Attached	Location
Outlet	<u>1</u>	<u>6</u>	<u>flange</u>	<u>SA-312-316</u>	<u>.280</u>	<u>Integral</u>	<u>welded</u>	<u>T. Head</u>
Inlet	<u>2</u>	<u>4</u>	<u>flange</u>	<u>SA-312-316</u>	<u>.237</u>	<u>Integral</u>	<u>welded</u>	<u>shell</u>
Inspection	<u>3</u>	<u>3</u>	<u>PAD</u>	<u>SA-240-316</u>	<u>1.25</u>	<u>Integral</u>	<u>welded</u>	<u>shell</u>
Inlet	<u>1</u>	<u>3</u>	<u>flange</u>	<u>SA-312-316</u>	<u>.216</u>	<u>Integral</u>	<u>welded</u>	<u>shell</u>
Outlet	<u>1</u>	<u>3</u>	<u>flange</u>	<u>SA-312-316</u>	<u>.216</u>	<u>Integral</u>	<u>welded</u>	<u>B. Head</u>
Inspection	<u>12</u>	<u>1</u>	<u>flange</u>	<u>SA-312-316</u>	<u>.133</u>	<u>Integral</u>	<u>welded</u>	<u>shell</u>
Inlet	<u>1</u>	<u>3/4</u>	<u>flange</u>	<u>SA-312-316</u>	<u>.113</u>	<u>Integral</u>	<u>welded</u>	<u>shell</u>
Inspection	<u>2</u>	<u>5</u>	<u>Cplg.</u>	<u>SA-479-316</u>	<u>.143</u>	<u>Integral</u>	<u>welded</u>	<u>shell</u>

12. Supports: Skirt Yes Lugs -- Legs -- Other -- Attached Welded to B. Head
(Yes or no) (Yes or no) (Yes or no) (Describe) (Where and how)
13. Remarks: Unit is a water stripper column for non-lethal, non-corrosive service.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.
Date 8-15-78 Signed CryoChem, Inc. by J.D. Stark Jr.
(Manufacturer) (Representative)
"U" Certificate of Authorization No. #5876 expires January 31, 1981

CERTIFICATE OF SHOP INSPECTION

Vessel made by CryoChem, Inc. at Boyertown, PA
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of PA and employed by H.S.B. & I. Co. have inspected the pressure vessel described in this Manufacturers' Data Report on 8-15-78 and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in the Manufacturers' Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Signed William Spurr Date 8-15-78 Commissions N.B. 4607 PA 1695
(Inspector) (Nat'l Board, State, Province and No.)

COLORITE 009179