

FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured and certified by Letco Incorporated, 851 North Belcrest, Springfield, Mo 65802
(Name and address of Manufacturer)

2. Manufactured for Basf Corporation, Route 4, Box 327, Beaumont, TX 77705
(Name and address of Purchaser)

3. Location of installation BASF Corporation, West Port Arthur Road, Beaumont, TX 77705
(Name and address)

4. Type: Vertical Column 3182-01
(Horiz., vert., or sphere) (Tank, separator, jkt. vessel, heat exh., etc.) (Mfg's serial No.)

--- W-1857-1 & 2-D, Rev. B 1144 1998
(CRN) (Drawing No.) (Nat'l. Bd. No.) (Year Built)

5. ASME Code, Section VIII, Div. 1 1995, A96 --- ---
Edition and Addenda (date) Code Case No. Special Service per UG-120(d)

Items 6-11 incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multi-chamber vessels.

6. Shell (a) No. of course(s): Seven(7) (b) Overall length (ft & in.): 55' - 8 1/2"

Course(s) No.	Diameter, in.	Length (ft & in.)	Material Spec./Grade or Type	Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A,B,C)			Heat Treatment	
				Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1-4	24" ID	8' - 0"	SB-575 C276	3/16"	0.0"	1	Spot	85%	1	None	85%	---	---
5	24" ID	3' - 2 1/2"	SB-575 C276	3/16"	0.0"	1	Spot	85%	1	None	85%	---	---
6-7	24" ID	10' - 0"	SA-240 316L	3/16"	0.0"	1	Spot	85%	1	None	85%	---	---

7. Heads: (a) SA-240 316L, No H.T. (b) SB-575 C276, No H.T.
(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp. (Mat'l. Spec. No., Grade or Type) H.T. - Time & Temp.

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	Top	0.073"	0.0"	24"	2"	---	---	---	---	Yes	Yes	1	None	85%
(b)	Bottom	0.087"	0.0"	24"	2"	---	---	---	---	Yes	Yes	1	None	85%

If removable, bolts used (describe other fastening) (24)3/4"-10UNC2A x 5 1/2" lg. CL. #1 studs(SA-193 B8) w/SA-194 GR8 heavy hex nuts
(Mat'l Spec. No., Grade, size, No.)

8. Type of jacket N.A. Jacket closure ---
(Describe as ogee & weld, bar, etc.)

If bar, give dimensions --- If bolted, describe or sketch.

9. MAWP 50 15 psi at max. temp. 350 350 °F Min. design metal temp. -20 °F at 50 psi.
(internal) (external) (internal) (external)

10. Impact test No, exempt per UNF-61, NF-6, UHA-51(d)(1)(a) and UHA-51(e)(2)(a)
(Indicate yes or no and the component(s) impact tested)

11. Hydro., pneu., or comb. test press. Hydro, 101 psig Proof test None

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: N.A.
Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)

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Floating (Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment

13. Tubes: N.A.
Mat'l Spec. No., Grade or Type O.D., in. Nom. thk., in. or gauge Number Type (Straight or U)

Items 14-18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers..

14. Shell (a) No. of course(s): N.A. (b) Overall length (ft & in.): ---

Course(s) No.	Diameter, in.	Length (ft & in.)	Material Spec./Grade or Type	Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A,B,C)			Heat Treatment	
				Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time

15. Heads: (a) N.A. (b) N.A.
(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp. (Mat'l. Spec. No., Grade or Type) H.T. - Time & Temp.

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	---													
(b)	---													

If removable, bolts used (describe other fastening) ---
(Mat'l Spec. No., Grade, size, No.)

16. MAWP --- --- psi at max. temp. --- --- ° F. Min. design metal temp. --- ° F. at --- psi.
(internal) (external) (internal) (external)

17. Impact test _____
(indicate yes or no and the component(s) impact tested)

18. Hydro., pneu., or comb. test press. --- Proof test ---

19. Nozzles, inspection, and safety valve openings: Symbols: A; SA-312 TP316L, B; SA-182 F316L, C; SB-619 TPC276, D; SB-574 FC276, cont. 22 remark

Purpose (inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Reflux	1	1 1/2"	CL-150	A	B	Sch. 40S	0.0"	---	L3	L18	---
OHD. Vapor	1	4"	CL-150	A	B	Sch. 40S	0.0"	SB-575 C276	L8	L18	---
Thermowell	2	2"	CL-150	A	B	Sch. 40S	0.0"	---	L3	L18	---
Pr. Gauge	1	2"	CL-150	A	B	Sch. 40S	0.0"	---	L3	L18	---
Sidedraw	1	4"	CL-150	A	B	Sch. 40S	0.0"	---	L3	L18	---
Insertion	1	3"	CL-150	A	B	Sch. 40S	0.0"	---	L3	L18	---
Spare	1	2"	CL-150	A	B	Sch. 40S	0.0"	---	L3	L18	---

20. Supports: Skirt Yes Lugs 0 Legs 0 Others N.A. Attached Bottom head/ welded
(Yes or no) (No.) (No.) (Describe) (Where and how)

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:
 (List the name of part, item number, mfg's. name and identifying number)
None

22. Remarks: Symbols continued: E; SB-575 C276. L3; Fig. UW-16.1(c), L18; Fig. 2-4(3), L23; Fig. 2-4(11) All CL-150 flanges are 150# R.F.S.O. flange All nozzle neck to vessel welds are full penetration. Pressure relief device(s) to be designed, supplied and installed by others. Manway flanges are 1 1/2" nominal SA-575 C276 w/(20)SA-193 B8 bolts. The top head is removeable using 1 3/4" nominal SA-240 316L flanges x 24.00" I.D. x 28.88" O.D. w/(24)SA-193 B8 bolts. Flanges are located at the top of the shell. For attachment ref. Fig. 2-4(11). (continued page 3 of 3)

CERTIFICATE OF SHOP 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.

U Certificate of Authorization No. 14940 Expires DECEMBER 07, 19 99

Date 4-27-98 Name Letco Incorporated Signed Ray White
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

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 Missouri and employed by Commercial Union Insurance Company of Boston, MA have inspected the pressure vessel described in this Manufacturer's Data Report on 4/19, 19 98, 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 this Manufacturer's 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.

Date 4/27/98 Signed [Signature] Commissions Nat'l Bd # 7376 "A"
(Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE N.A.

We certify that the statements on this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1.

U Certificate of Authorization No. _____ Expires _____, 19 _____

Date _____ Name _____ Signed _____
(Assembler) (Representative)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION N.A.

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 _____ and employed by _____ of _____ have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items _____, not included in the certificate of shop inspection, have been inspected by me and to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1. The described vessel was inspected and subjected to a hydrostatic test of _____ psi. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's 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.

Date _____ Signed _____ Commissions _____
(Authorized Inspector) (Nat'l Board incl. endorsement, State Province and No.)

FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured and certified by Letco Incorporated, 851 North Belcrest, Springfield, Mo 65802
(Name and address of Manufacturer)

2. Manufactured for BASF Corporation, Route 4, Box 327, Beaumont, TX 77705
(Name and address of Purchaser)

3. Location of installation BASF Corporation, West Port Arthur Road, Beaumont, TX 77705
(Name and address)

4. Type: Vertical Column 3182-01
(Horiz., vert., or sphere) (Tank, separator, jkt. vessel, heat exh., etc.) (Mfg's serial No.)

--- W-1857-1 & 2-D, Rev. B 1144 1998
(CRN) (Drawing No.) (Nat'l. Bd. No.) (Year Built)

Data Report
Item Number

Remarks

see page 2 of 3 for symbol definitions

19. Nozzles, inspection, and safety valve openings:


Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Bottoms Out	1	4"	CL-150	C	D	Sch. 40S	0.0"	SB-575 C276	L8	L18	---
Reboil Vapor	1	6"	CL-150	C	D	Sch. 40S	0.0"	SB-575 C276	L8	L18	---
Drain	1	2"	CL-150	C	D	Sch. 40S	0.0"	---	L3	L18	---
Manway	1	20"	Bolted	E	E	3/16"	0.0"	SB-575 C276	L8	L23	Shell
Relief	1	2"	CL-150	C	D	Sch. 40S	0.0"	SB-575 C276	L8	L18	---
Thermowell	3	2"	CL-150	C	D	Sch. 40S	0.0"	---	L3	L18	---
Level Gauge	2	2"	CL-150	C	D	Sch. 40S	0.0"	---	L3	L18	---
Level Connect	2	3"	CL-150	C	D	Sch. 40S	0.0"	---	L3	L18	---
Pump Min. Flo	1	1"	CL-150	C	D	Sch. 40S	0.0"	---	L3	L18	---
Steam Out	1	1"	CL-150	C	D	Sch. 40S	0.0"	---	L3	L18	---
Spare	1	3"	CL-150	C	D	Sch. 40S	0.0"	---	L3	L18	---

Symbols continued: Top head has a 4" tall x 24" I.D. SA-240 316L shell section. Shell section connects the top head to flange.

Certificate of Authorization: Type "U" No. 14940 Expires December 07, 19 99

Date 4-27-98 Name Letco Incorporated Signed Ray White
(Manufacturer) (Representative)

Date 4/27/98 Name [Signature] Commission Nat'l Bd. # 7376 "A"
(Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)


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