Form 5500

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Annual Return/Report of Employee Benefit Plan

This form is required to be filed for employee benefit plans under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code).

▶ **Complete all entries in accordance with the instructions to the Form 5500.**

OMB Nos. 1210-0110
1210-0089

2018

This Form is Open to Public Inspection

Part I Annual Report Identification Information

For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

A This return/report is for:
- [ ] a multiemployer plan
- [ ] a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.)
- [X] a single-employer plan
- [ ] a DFE (specify) ____

B This return/report is:
- [ ] the first return/report
- [ ] the final return/report
- [ ] an amended return/report
- [ ] a short plan year return/report (less than 12 months)

C If the plan is a collectively-bargained plan, check here. . . . . ▶ [X]

D Check box if filing under:
- [X] Form 5558
- [ ] automatic extension
- [ ] the DFVC program
- [ ] special extension (enter description)

Part II Basic Plan Information—enter all requested information

1a Name of plan
PENSION PLAN FOR ELIGIBLE HOURLY REPRESENTED EMPLOYEES OF EQUISTAR CHEMICALS LP

1b Three-digit plan number (PN) ▶ 001

1c Effective date of plan 01/01/1962

2a Plan sponsor's name (employer, if for a single-employer plan)
Mailing address (include room, apt., suite no. and street, or P.O. Box)
City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions)
EQUISTAR CHEMICALS, LP

1221 MCKINNEY, SUITE 300
HOUSTON, TX 77010-2006

2b Employer Identification Number (EIN)
76-0550481

2c Plan Sponsor's telephone number
713-309-7200

2d Business code (see instructions)
325900

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including accompanying schedules, statements and attachments, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	Filed with authorized/valid electronic signature.	10/09/2019	REBECCA PATTERSON HOLMES
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE			
	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor
SIGN HERE			
	Signature of DFE	Date	Enter name of individual signing as DFE

3a Plan administrator's name and address ☐ Same as Plan Sponsor

BENEFITS ADMINISTRATIVE COMMITTEE

1221 MCKINNEY, SUITE 300
HOUSTON, TX 77010-2006

3b Administrator's EIN: 20-3443655

3c Administrator's telephone number: 713-309-7200

4 If the name and/or EIN of the plan sponsor or the plan name has changed since the last return/report filed for this plan, enter the plan sponsor's name, EIN, the plan name and the plan number from the last return/report:
a Sponsor's name
c Plan Name

4b EIN

4d PN

5	Total number of participants at the beginning of the plan year	**5**	336
6	Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines **6a(1), 6a(2), 6b, 6c,** and **6d**).		
a(1)	Total number of active participants at the beginning of the plan year	**6a(1)**	80
a(2)	Total number of active participants at the end of the plan year	**6a(2)**	72
b	Retired or separated participants receiving benefits	**6b**	150
c	Other retired or separated participants entitled to future benefits	**6c**	59
d	Subtotal. Add lines **6a(2)**, **6b**, and **6c**	**6d**	281
e	Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.	**6e**	49
f	Total. Add lines **6d** and **6e**.	**6f**	330
g	Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	**6g**	
h	Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	**6h**	0
7	Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item)	**7**	

8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions:

1A 3H

b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:

9a Plan funding arrangement (check all that apply)

(1)	☐	Insurance
(2)	☐	Code section 412(e)(3) insurance contracts
(3)	☒	Trust
(4)	☐	General assets of the sponsor

9b Plan benefit arrangement (check all that apply)

(1)	☐	Insurance
(2)	☐	Code section 412(e)(3) insurance contracts
(3)	☒	Trust
(4)	☐	General assets of the sponsor

10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)

a Pension Schedules

(1)	☒	**R** (Retirement Plan Information)
(2)	☐	**MB** (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary
(3)	☒	**SB** (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary

b General Schedules

(1)	☒		**H** (Financial Information)
(2)	☐		**I** (Financial Information – Small Plan)
(3)	☐	0	**A** (Insurance Information)
(4)	☒		**C** (Service Provider Information)
(5)	☒		**D** (DFE/Participating Plan Information)
(6)	☐		**G** (Financial Transaction Schedules)

Part III Form M-1 Compliance Information (to be completed by welfare benefit plans)

11a If the plan provides welfare benefits, was the plan subject to the Form M-1 filing requirements during the plan year? (See instructions and 29 CFR 2520.101-2.) ..... ☐ Yes ☐ No

If "Yes" is checked, complete lines 11b and 11c.

11b Is the plan currently in compliance with the Form M-1 filing requirements? (See instructions and 29 CFR 2520.101-2.) ..... ☐ Yes ☐ No

11c Enter the Receipt Confirmation Code for the 2018 Form M-1 annual report. If the plan was not required to file the 2018 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code_____

SCHEDULE SB (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Single-Employer Defined Benefit Plan Actuarial Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code).

▶ **File as an attachment to Form 5500 or 5500-SF.**

OMB No. 1210-0110

2018

This Form is Open to Public Inspection

For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

▶ **Round off amounts to nearest dollar.**

▶ **Caution:** A penalty of $1,000 will be assessed for late filing of this report unless reasonable cause is established.

A Name of plan
PENSION PLAN FOR ELIGIBLE HOURLY REPRESENTED EMPLOYEES OF EQUISTAR CHEMICALS LP

B Three-digit plan number (PN) ▶ 001

C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF
EQUISTAR CHEMICALS, LP

D Employer Identification Number (EIN)
76-0550481

E Type of plan: [X] Single [ ] Multiple-A [ ] Multiple-B

F Prior year plan size: [ ] 100 or fewer [ ] 101-500 [X] More than 500

Part I Basic Information

1 Enter the valuation date: Month 01 Day 01 Year 2018

2 Assets:

a Market value	**2a**	16909732
b Actuarial value	**2b**	16159884

3 Funding target/participant count breakdown

	(1) Number of participants	(2) Vested Funding Target	(3) Total Funding Target
a For retired participants and beneficiaries receiving payment	188	8142328	8142328
b For terminated vested participants	72	2293555	2293555
c For active participants	80	3875174	4400271
d Total	340	14311057	14836154

4 If the plan is in at-risk status, check the box and complete lines (a) and (b) [ ]

a Funding target disregarding prescribed at-risk assumptions	**4a**	
b Funding target reflecting at-risk assumptions, but disregarding transition rule for plans that have been in at-risk status for fewer than five consecutive years and disregarding loading factor	**4b**	
5 Effective interest rate	**5**	5.69 %
6 Target normal cost	**6**	340909

Statement by Enrolled Actuary

To the best of my knowledge, the information supplied in this schedule and accompanying schedules, statements and attachments, if any, is complete and accurate. Each prescribed assumption was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.

SIGN HERE

Signature of actuary	10/08/2019 Date
PENNY A. BAILEY Type or print name of actuary	17-05451 Most recent enrollment number
MERCER Firm name	314-588-2500 Telephone number (including area code)
701 MARKET ST., SUITE 1100 ST. LOUIS, MO 63101-1867 Address of the firm	

If the actuary has not fully reflected any regulation or ruling promulgated under the statute in completing this schedule, check the box and see instructions [ ]

Part II Beginning of Year Carryover and Prefunding Balances

		(a) Carryover balance	(b) Prefunding balance
7	Balance at beginning of prior year after applicable adjustments (line 13 from prior year)	0	1996723
8	Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	0
9	Amount remaining (line 7 minus line 8)	0	1996723
10	Interest on line 9 using prior year's actual return of 14.04 %	0	280340
11	Prior year's excess contributions to be added to prefunding balance:		
	a Present value of excess contributions (line 38a from prior year)		12712
	b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of 5.88 %		747
	b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		
	c Total available at beginning of current plan year to add to prefunding balance		13459
	d Portion of (c) to be added to prefunding balance		13459
12	Other reductions in balances due to elections or deemed elections	0	376138
13	Balance at beginning of current year (line 9 + line 10 + line 11d – line 12)	0	1914384

Part III Funding Percentages

14	Funding target attainment percentage	14	96.01%
15	Adjusted funding target attainment percentage	15	108.92%
16	Prior year's funding percentage for purposes of determining whether carryover/prefunding balances may be used to reduce current year's funding requirement	16	97.31%
17	If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage.	17	%

Part IV Contributions and Liquidity Shortfalls

18 Contributions made to the plan for the plan year by employer(s) and employees:

(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees	(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees
09/05/2019	400000	0			
			Totals ► 18(b)	400000	18(c) 0

19	Discounted employer contributions – see instructions for small plan with a valuation date after the beginning of the year:		
	a Contributions allocated toward unpaid minimum required contributions from prior years	19a	0
	b Contributions made to avoid restrictions adjusted to valuation date	19b	0
	c Contributions allocated toward minimum required contribution for current year adjusted to valuation date	19c	364554

20 Quarterly contributions and liquidity shortfalls:

a Did the plan have a "funding shortfall" for the prior year? [X] Yes [ ] No

b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? [X] Yes [ ] No

c If line 20a is "Yes," see instructions and complete the following table as applicable:

Liquidity shortfall as of end of quarter of this plan year

(1) 1st	(2) 2nd	(3) 3rd	(4) 4th
0	0	0	0

Part V Assumptions Used to Determine Funding Target and Target Normal Cost

21 Discount rate:

a Segment rates:

1st segment:	2nd segment:	3rd segment:	
3.92%	5.52%	6.29%	☐ N/A, full yield curve used

b Applicable month (enter code)	**21b**	4
22 Weighted average retirement age	**22**	61

23 Mortality table(s) (see instructions)

Prior regulation: ☐ Prescribed - combined ☒ Prescribed - separate ☐ Substitute

Current regulation: ☐ Prescribed - combined ☐ Prescribed - separate ☐ Substitute

Part VI Miscellaneous Items

24 Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment. ☒ Yes ☐ No

25 Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment. ☐ Yes ☒ No

26 Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment. ☒ Yes ☐ No

27 If the plan is subject to alternative funding rules, enter applicable code and see instructions regarding attachment	**27**	

Part VII Reconciliation of Unpaid Minimum Required Contributions For Prior Years

28 Unpaid minimum required contributions for all prior years	**28**	0
29 Discounted employer contributions allocated toward unpaid minimum required contributions from prior years (line 19a)	**29**	0
30 Remaining amount of unpaid minimum required contributions (line 28 minus line 29)	**30**	0

Part VIII Minimum Required Contribution For Current Year

31 Target normal cost and excess assets (see instructions):

a Target normal cost (line 6)	**31a**	340909
b Excess assets, if applicable, but not greater than line 31a	**31b**	0

32 Amortization installments:

	Outstanding Balance	Installment
a Net shortfall amortization installment	590654	96424
b Waiver amortization installment	0	0

33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount	**33**	
34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33)	**34**	437333

	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement	0	338190	338190

36 Additional cash requirement (line 34 minus line 35)	**36**	99143
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	**37**	364554

38 Present value of excess contributions for current year (see instructions)

a Total (excess, if any, of line 37 over line 36)	**38a**	265411
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances	**38b**	265411
39 Unpaid minimum required contribution for current year (excess, if any, of line 36 over line 37)	**39**	0
40 Unpaid minimum required contributions for all years	**40**	0

Part IX Pension Funding Relief Under Pension Relief Act of 2010 (See Instructions)

41 If an election was made to use PRA 2010 funding relief for this plan:

a Schedule elected ☐ 2 plus 7 years ☐ 15 years

b Eligible plan year(s) for which the election in line 41a was made ☐ 2008 ☐ 2009 ☐ 2010 ☐ 2011

SCHEDULE C (Form 5500)	Service Provider Information	OMB No. 1210-0110
Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ **File as an attachment to Form 5500.**	**2018** **This Form is Open to Public Inspection.**

For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

A Name of plan
PENSION PLAN FOR ELIGIBLE HOURLY REPRESENTED EMPLOYEES OF EQUISTAR CHEMICALS LP

B Three-digit plan number (PN) ▶ 001

C Plan sponsor's name as shown on line 2a of Form 5500
EQUISTAR CHEMICALS, LP

D Employer Identification Number (EIN)
76-0550481

Part I Service Provider Information (see instructions)

You must complete this Part, in accordance with the instructions, to report the information required for **each person** who received, directly or indirectly, $5,000 or more in total compensation (i.e., money or anything else of monetary value) in connection with services rendered to the plan or the person's position with the plan during the plan year. If a person received **only** eligible indirect compensation for which the plan received the required disclosures, you are required to answer line 1 but are not required to include that person when completing the remainder of this Part.

1 Information on Persons Receiving Only Eligible Indirect Compensation

a Check "Yes" or "No" to indicate whether you are excluding a person from the remainder of this Part because they received only eligible indirect compensation for which the plan received the required disclosures (see instructions for definitions and conditions).. . . . . ☐ Yes ☒ No

b If you answered line 1a "Yes," enter the name and EIN or address of each person providing the required disclosures for the service providers who received only eligible indirect compensation. Complete as many entries as needed (see instructions).

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, $5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

MERCER

13-2834414

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
11 13 50	NONE	63541	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, $5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	**(c)** Relationship to employer, employee organization, or person known to be a party-in-interest	**(d)** Enter direct compensation paid by the plan. If none, enter -0-.	**(e)** Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	**(f)** Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	**(g)** Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	**(h)** Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	**(c)** Relationship to employer, employee organization, or person known to be a party-in-interest	**(d)** Enter direct compensation paid by the plan. If none, enter -0-.	**(e)** Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	**(f)** Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	**(g)** Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	**(h)** Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	**(c)** Relationship to employer, employee organization, or person known to be a party-in-interest	**(d)** Enter direct compensation paid by the plan. If none, enter -0-.	**(e)** Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	**(f)** Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	**(g)** Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	**(h)** Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

Part I Service Provider Information (continued)

3. If you reported on line 2 receipt of indirect compensation, other than eligible indirect compensation, by a service provider, and the service provider is a fiduciary or provides contract administrator, consulting, custodial, investment advisory, investment management, broker, or recordkeeping services, answer the following questions for (a) each source from whom the service provider received $1,000 or more in indirect compensation and (b) each source for whom the service provider gave you a formula used to determine the indirect compensation instead of an amount or estimated amount of the indirect compensation. Complete as many entries as needed to report the required information for each source.

(a) Enter service provider name as it appears on line 2	**(b)** Service Codes (see instructions)	**(c)** Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	**(e)** Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

(a) Enter service provider name as it appears on line 2	**(b)** Service Codes (see instructions)	**(c)** Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	**(e)** Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

(a) Enter service provider name as it appears on line 2	**(b)** Service Codes (see instructions)	**(c)** Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	**(e)** Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

Part II Service Providers Who Fail or Refuse to Provide Information

4 Provide, to the extent possible, the following information for each service provider who failed or refused to provide the information necessary to complete this Schedule.

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

(a) Enter name and EIN or address of service provider (see instructions)	**(b)** Nature of Service Code(s)	**(c)** Describe the information that the service provider failed or refused to provide

Part III Termination Information on Accountants and Enrolled Actuaries (see instructions)

(complete as many entries as needed)

a Name:	**b** EIN:
c Position:	
d Address:	**e** Telephone:

Explanation:

a Name:	**b** EIN:
c Position:	
d Address:	**e** Telephone:

Explanation:

a Name:	**b** EIN:
c Position:	
d Address:	**e** Telephone:

Explanation:

a Name:	**b** EIN:
c Position:	
d Address:	**e** Telephone:

Explanation:

a Name:	**b** EIN:
c Position:	
d Address:	**e** Telephone:

Explanation:

SCHEDULE D (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

DFE/Participating Plan Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).

▶ **File as an attachment to Form 5500.**

OMB No. 1210-0110

2018

This Form is Open to Public Inspection.

For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

A Name of plan
PENSION PLAN FOR ELIGIBLE HOURLY REPRESENTED EMPLOYEES OF EQUISTAR CHEMICALS LP

B Three-digit plan number (PN) ▶ 001

C Plan or DFE sponsor's name as shown on line 2a of Form 5500
EQUISTAR CHEMICALS, LP

D Employer Identification Number (EIN)
76-0550481

Part I Information on interests in MTIAs, CCTs, PSAs, and 103-12 IEs (to be completed by plans and DFEs)

(Complete as many entries as needed to report all interests in DFEs)

a Name of MTIA, CCT, PSA, or 103-12 IE: LYONDELLBASELL MASTER TRUST

b Name of sponsor of entity listed in (a): LYONDELL CHEMICAL COMPANY

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
95-4160558-009	M	15035639

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

Part II Information on Participating Plans (to be completed by DFEs)

(Complete as many entries as needed to report all participating plans)

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

SCHEDULE H (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Financial Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA), and section 6058(a) of the Internal Revenue Code (the Code).

▶ **File as an attachment to Form 5500.**

OMB No. 1210-0110

2018

This Form is Open to Public Inspection

For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

A Name of plan
PENSION PLAN FOR ELIGIBLE HOURLY REPRESENTED EMPLOYEES OF EQUISTAR CHEMICALS LP

B Three-digit plan number (PN) ▶ 001

C Plan sponsor's name as shown on line 2a of Form 5500
EQUISTAR CHEMICALS, LP

D Employer Identification Number (EIN)
76-0550481

Part I Asset and Liability Statement

1 Current value of plan assets and liabilities at the beginning and end of the plan year. Combine the value of plan assets held in more than one trust. Report the value of the plan's interest in a commingled fund containing the assets of more than one plan on a line-by-line basis unless the value is reportable on lines 1c(9) through 1c(14). Do not enter the value of that portion of an insurance contract which guarantees, during this plan year, to pay a specific dollar benefit at a future date. **Round off amounts to the nearest dollar.** MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 1b(1), 1b(2), 1c(8), 1g, 1h, and 1i. CCTs, PSAs, and 103-12 IEs also do not complete lines 1d and 1e. See instructions.

Assets		(a) Beginning of Year	(b) End of Year
a Total noninterest-bearing cash	1a		
b Receivables (less allowance for doubtful accounts):			
(1) Employer contributions	1b(1)	400000	400000
(2) Participant contributions	1b(2)		
(3) Other	1b(3)		
c General investments:			
(1) Interest-bearing cash (include money market accounts & certificates of deposit)	1c(1)		
(2) U.S. Government securities	1c(2)		
(3) Corporate debt instruments (other than employer securities):			
(A) Preferred	1c(3)(A)		
(B) All other	1c(3)(B)		
(4) Corporate stocks (other than employer securities):			
(A) Preferred	1c(4)(A)		
(B) Common	1c(4)(B)		
(5) Partnership/joint venture interests	1c(5)		
(6) Real estate (other than employer real property)	1c(6)		
(7) Loans (other than to participants)	1c(7)		
(8) Participant loans	1c(8)		
(9) Value of interest in common/collective trusts	1c(9)		
(10) Value of interest in pooled separate accounts	1c(10)		
(11) Value of interest in master trust investment accounts	1c(11)	16553031	15035639
(12) Value of interest in 103-12 investment entities	1c(12)		
(13) Value of interest in registered investment companies (e.g., mutual funds)	1c(13)		
(14) Value of funds held in insurance company general account (unallocated contracts)	1c(14)		
(15) Other	1c(15)		

			(a) Beginning of Year	(b) End of Year
1d	Employer-related investments:			
	(1) Employer securities	1d(1)		
	(2) Employer real property	1d(2)		
e	Buildings and other property used in plan operation	1e		
f	Total assets (add all amounts in lines 1a through 1e)	1f	16953031	15435639
	Liabilities			
g	Benefit claims payable	1g		
h	Operating payables	1h	2736	2104
i	Acquisition indebtedness	1i		
j	Other liabilities	1j		
k	Total liabilities (add all amounts in lines 1g through1j)	1k	2736	2104
	Net Assets			
l	Net assets (subtract line 1k from line 1f)	1l	16950295	15433535

Part II Income and Expense Statement

2 Plan income, expenses, and changes in net assets for the year. Include all income and expenses of the plan, including any trust(s) or separately maintained fund(s) and any payments/receipts to/from insurance carriers. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 2a, 2b(1)(E), 2e, 2f, and 2g.

	Income		(a) Amount	(b) Total
a	**Contributions:**			
	(1) Received or receivable in cash from: **(A)** Employers	2a(1)(A)	400000	
	(B) Participants	2a(1)(B)		
	(C) Others (including rollovers)	2a(1)(C)		
	(2) Noncash contributions	2a(2)		
	(3) Total contributions. Add lines **2a(1)(A), (B), (C),** and line **2a(2)**	2a(3)		400000
b	**Earnings on investments:**			
	(1) Interest:			
	(A) Interest-bearing cash (including money market accounts and certificates of deposit)	2b(1)(A)		
	(B) U.S. Government securities	2b(1)(B)		
	(C) Corporate debt instruments	2b(1)(C)		
	(D) Loans (other than to participants)	2b(1)(D)		
	(E) Participant loans	2b(1)(E)		
	(F) Other	2b(1)(F)		
	(G) Total interest. Add lines **2b(1)(A)** through **(F)**	2b(1)(G)		0
	(2) Dividends: **(A)** Preferred stock	2b(2)(A)		
	(B) Common stock	2b(2)(B)		
	(C) Registered investment company shares (e.g. mutual funds)	2b(2)(C)		
	(D) Total dividends. Add lines **2b(2)(A)**, **(B)**, and **(C)**	2b(2)(D)		0
	(3) Rents	2b(3)		
	(4) Net gain (loss) on sale of assets: **(A)** Aggregate proceeds	2b(4)(A)		
	(B) Aggregate carrying amount (see instructions)	2b(4)(B)		
	(C) Subtract line **2b(4)(B)** from line **2b(4)(A)** and enter result	2b(4)(C)		0
	(5) Unrealized appreciation (depreciation) of assets: **(A)** Real estate	2b(5)(A)		
	(B) Other	2b(5)(B)		
	(C) Total unrealized appreciation of assets. Add lines **2b(5)(A)** and **(B)**	2b(5)(C)		0

		(a) Amount	(b) Total
(6) Net investment gain (loss) from common/collective trusts	2b(6)		
(7) Net investment gain (loss) from pooled separate accounts	2b(7)		
(8) Net investment gain (loss) from master trust investment accounts	2b(8)		-617102
(9) Net investment gain (loss) from 103-12 investment entities	2b(9)		
(10) Net investment gain (loss) from registered investment companies (e.g., mutual funds)	2b(10)		
c Other income	2c		
d Total income. Add all **income** amounts in column (b) and enter total	2d		-217102
Expenses			
e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	1181355	
(2) To insurance carriers for the provision of benefits	2e(2)		
(3) Other	2e(3)		
(4) Total benefit payments. Add lines **2e(1)** through **(3)**	2e(4)		1181355
f Corrective distributions (see instructions)	2f		
g Certain deemed distributions of participant loans (see instructions)	2g		
h Interest expense	2h		
i Administrative expenses: (1) Professional fees	2i(1)	34007	
(2) Contract administrator fees	2i(2)	31122	
(3) Investment advisory and management fees	2i(3)		
(4) Other	2i(4)	53174	
(5) Total administrative expenses. Add lines **2i(1)** through **(4)**	2i(5)		118303
j Total expenses. Add all **expense** amounts in column (b) and enter total	2j		1299658
Net Income and Reconciliation			
k Net income (loss). Subtract line **2j** from line **2d**	2k		-1516760
l Transfers of assets:			
(1) To this plan	2l(1)		
(2) From this plan	2l(2)		

Part III Accountant's Opinion

3 Complete lines 3a through 3c if the opinion of an independent qualified public accountant is attached to this Form 5500. Complete line 3d if an opinion is not attached.

a The attached opinion of an independent qualified public accountant for this plan is (see instructions):

(1) [ ] Unqualified **(2)** [ ] Qualified **(3)** [X] Disclaimer **(4)** [ ] Adverse

b Did the accountant perform a limited scope audit pursuant to 29 CFR 2520.103-8 and/or 103-12(d)? [X] Yes [ ] No

c Enter the name and EIN of the accountant (or accounting firm) below:

(1) Name: PRICEWATERHOUSECOOPER **(2)** EIN: 13-4008324

d The opinion of an independent qualified public accountant is **not attached** because:

(1) [ ] This form is filed for a CCT, PSA, or MTIA. **(2)** [ ] It will be attached to the next Form 5500 pursuant to 29 CFR 2520.104-50.

Part IV Compliance Questions

4 CCTs and PSAs do not complete Part IV. MTIAs, 103-12 IEs, and GIAs do not complete lines 4a, 4e, 4f, 4g, 4h, 4k, 4m, 4n, or 5. 103-12 IEs also do not complete lines 4j and 4l. MTIAs also do not complete line 4l.

During the plan year:

		Yes	No	Amount
a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.)	4a		X	
b Were any loans by the plan or fixed income obligations due the plan in default as of the close of the plan year or classified during the year as uncollectible? Disregard participant loans secured by participant's account balance. (Attach Schedule G (Form 5500) Part I if "Yes" is checked.)	4b		X	

			Yes	No	Amount
c	Were any leases to which the plan was a party in default or classified during the year as uncollectible? (Attach Schedule G (Form 5500) Part II if "Yes" is checked.)	4c		X	
d	Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a. Attach Schedule G (Form 5500) Part III if "Yes" is checked.)	4d		X	
e	Was this plan covered by a fidelity bond?	4e	X		57334847
f	Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?	4f		X	
g	Did the plan hold any assets whose current value was neither readily determinable on an established market nor set by an independent third party appraiser?	4g		X	
h	Did the plan receive any noncash contributions whose value was neither readily determinable on an established market nor set by an independent third party appraiser?	4h		X	
i	Did the plan have assets held for investment? (Attach schedule(s) of assets if "Yes" is checked, and see instructions for format requirements.)	4i		X	
j	Were any plan transactions or series of transactions in excess of 5% of the current value of plan assets? (Attach schedule of transactions if "Yes" is checked, and see instructions for format requirements.)	4j		X	
k	Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?	4k		X	
l	Has the plan failed to provide any benefit when due under the plan?	4l		X	
m	If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)	4m			
n	If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3.	4n			

5a Has a resolution to terminate the plan been adopted during the plan year or any prior plan year? ☐ Yes ☒ No
If "Yes," enter the amount of any plan assets that reverted to the employer this year _____.

5b If, during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)

5b(1) Name of plan(s)	**5b(2)** EIN(s)	**5b(3)** PN(s)

5c If the plan is a defined benefit plan, is it covered under the PBGC insurance program (See ERISA section 4021.)? ..... ☒ Yes ☐ No ☐ Not determined
If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year 4159410. (See instructions.)

SCHEDULE R (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Retirement Plan Information

This schedule is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6058(a) of the Internal Revenue Code (the Code).

▶ **File as an attachment to Form 5500.**

OMB No. 1210-0110

2018

This Form is Open to Public Inspection.

For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

A Name of plan
PENSION PLAN FOR ELIGIBLE HOURLY REPRESENTED EMPLOYEES OF EQUISTAR CHEMICALS LP

B Three-digit plan number (PN) ▶ 001

C Plan sponsor's name as shown on line 2a of Form 5500
EQUISTAR CHEMICALS, LP

D Employer Identification Number (EIN)
76-0550481

Part I Distributions

All references to distributions relate only to payments of benefits during the plan year.

1 Total value of distributions paid in property other than in cash or the forms of property specified in the instructions **1** 0

2 Enter the EIN(s) of payor(s) who paid benefits on behalf of the plan to participants or beneficiaries during the year (if more than two, enter EINs of the two payors who paid the greatest dollar amounts of benefits):

EIN(s): 13-7073479

Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.

3 Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year **3** 3

Part II Funding Information (If the plan is not subject to the minimum funding requirements of section 412 of the Internal Revenue Code or ERISA section 302, skip this Part.)

4 Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)? ..... ☐ **Yes** ☒ **No** ☐ **N/A**

If the plan is a defined benefit plan, go to line 8.

5 If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions and enter the date of the ruling letter granting the waiver. **Date:** Month _____ Day _____ Year _____

If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule.

6 **a** Enter the minimum required contribution for this plan year (include any prior year accumulated funding deficiency not waived) **6a**

b Enter the amount contributed by the employer to the plan for this plan year **6b**

c Subtract the amount in line 6b from the amount in line 6a. Enter the result (enter a minus sign to the left of a negative amount) **6c**

If you completed line 6c, skip lines 8 and 9.

7 Will the minimum funding amount reported on line 6c be met by the funding deadline? ..... ☐ **Yes** ☐ **No** ☐ **N/A**

8 If a change in actuarial cost method was made for this plan year pursuant to a revenue procedure or other authority providing automatic approval for the change or a class ruling letter, does the plan sponsor or plan administrator agree with the change? ..... ☐ **Yes** ☐ **No** ☒ **N/A**

Part III Amendments

9 If this is a defined benefit pension plan, were any amendments adopted during this plan year that increased or decreased the value of benefits? If yes, check the appropriate box. If no, check the "No" box. ..... ☒ **Increase** ☐ **Decrease** ☐ **Both** ☐ **No**

Part IV ESOPs (see instructions). If this is not a plan described under section 409(a) or 4975(e)(7) of the Internal Revenue Code, skip this Part.

10 Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan? ..... ☐ **Yes** ☐ **No**

11 **a** Does the ESOP hold any preferred stock? ..... ☐ **Yes** ☐ **No**

b If the ESOP has an outstanding exempt loan with the employer as lender, is such loan part of a "back-to-back" loan? (See instructions for definition of "back-to-back" loan.) ..... ☐ **Yes** ☐ **No**

12 Does the ESOP hold any stock that is not readily tradable on an established securities market? ..... ☐ **Yes** ☐ **No**

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that contributed more than 5% of total contributions to the plan during the plan year (measured in dollars). See instructions. *Complete as many entries as needed to report all applicable employers.*

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify):

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

14 Enter the number of participants on whose behalf no contributions were made by an employer as an employer of the participant for:

a The current year	**14a**	
b The plan year immediately preceding the current plan year	**14b**	
c The second preceding plan year	**14c**	

15 Enter the ratio of the number of participants under the plan on whose behalf no employer had an obligation to make an employer contribution during the current plan year to:

a The corresponding number for the plan year immediately preceding the current plan year	**15a**	
b The corresponding number for the second preceding plan year	**15b**	

16 Information with respect to any employers who withdrew from the plan during the preceding plan year:

a Enter the number of employers who withdrew during the preceding plan year	**16a**	
b If line 16a is greater than 0, enter the aggregate amount of withdrawal liability assessed or estimated to be assessed against such withdrawn employers	**16b**	

17 If assets and liabilities from another plan have been transferred to or merged with this plan during the plan year, check box and see instructions regarding supplemental information to be included as an attachment. ☐

Part VI Additional Information for Single-Employer and Multiemployer Defined Benefit Pension Plans

18 If any liabilities to participants or their beneficiaries under the plan as of the end of the plan year consist (in whole or in part) of liabilities to such participants and beneficiaries under two or more pension plans as of immediately before such plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐

19 If the total number of participants is 1,000 or more, complete lines (a) through (c)

a Enter the percentage of plan assets held as:
Stock: _____% Investment-Grade Debt: _____% High-Yield Debt: _____% Real Estate: _____% Other: _____%

b Provide the average duration of the combined investment-grade and high-yield debt:
☐ 0-3 years ☐ 3-6 years ☐ 6-9 years ☐ 9-12 years ☐ 12-15 years ☐ 15-18 years ☐ 18-21 years ☐ 21 years or more

c What duration measure was used to calculate line 19(b)?
☐ Effective duration ☐ Macaulay duration ☐ Modified duration ☐ Other (specify):

PENSION PLAN FOR ELIGIBLE HOURLY REPRESENTED EMPLOYEES OF EQUISTAR CHEMICALS, LP

FINANCIAL STATEMENTS

As of December 31, 2018 and 2017
and for the years ended December 31, 2018 and 2017

PENSION PLAN FOR ELIGIBLE HOURLY REPRESENTED EMPLOYEES OF EQUISTAR CHEMICALS, LP

INDEX TO FINANCIAL STATEMENTS

	Page
Report of Independent Auditors	3
Financial Statements:	
Statements of Net Assets Available for Benefits	5
Statements of Changes in Net Assets Available for Benefits	6
Statement of Accumulated Plan Benefits	7
Statement of Changes in Accumulated Plan Benefits	8
Notes to the Financial Statements	9

Schedules required by 29 CFR 2520.103-10 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974 ("ERISA") have been omitted because they are not applicable.

pwc

Report of Independent Auditors

To the Administrator of Pension Plan for Eligible Hourly Represented Employees of Equistar Chemicals, LP:

Report on the Financial Statements

We were engaged to audit the accompanying financial statements of the Pension Plan for Eligible Hourly Represented Employees of Equistar Chemicals, LP (the "Plan"), which comprise the statements of net assets available for benefits as of December 31, 2018 and 2017, and the related statements of changes in net assets available for benefits for the years then ended and the statement of accumulated plan benefits as of December 31, 2017 and the related statement of changes in accumulated plan benefits for the year then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on the financial statements based on conducting the audit in accordance with auditing standards generally accepted in the United States of America. Because of the matter described in the Basis for Disclaimer of Opinion paragraph, however, we were not able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion.

Basis for Disclaimer of Opinion

As permitted by 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974, the plan administrator instructed us not to perform, and we did not perform, any auditing procedures with respect to the information summarized in Notes 7, 8, and 9, which were certified by The Bank of New York Mellon, the trustee of the Plan, except for comparing such information with the related information included in the financial statements. We have been informed by the plan administrator that the trustee holds the Plan's investment assets and executes investment transactions. The plan administrator has obtained certifications from the trustee as of December 31, 2018 and 2017 and for the years then ended, that the information provided to the plan administrator by the trustee is complete and accurate.

Disclaimer of Opinion

Because of the significance of the matter described in the Basis for Disclaimer of Opinion paragraph, we have not been able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion. Accordingly, we do not express an opinion on the financial statements.

pwc

Report on Form and Content in Compliance with DOL Rules and Regulations

The form and content of the information included in the financial statements, other than that derived from the information certified by the trustee, have been audited by us in accordance with auditing standards generally accepted in the United States of America and, in our opinion, are presented in compliance with the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974.

PricewaterhouseCoopers LLP

Houston, Texas
September 26, 2019

PENSION PLAN FOR ELIGIBLE HOURLY REPRESENTED EMPLOYEES OF EQUISTAR CHEMICALS, LP

STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS

	December 31,	
	2018	**2017**
ASSETS		
Plan interest in the LyondellBasell Master Trust, at fair value	$ 15,035,639	$ 16,553,031
Employer contributions receivable	400,000	400,000
Total assets	15,435,639	16,953,031
LIABILITIES		
Accrued administrative expenses	2,104	2,736
Total liabilities	2,104	2,736
Net assets available for benefits	$ 15,433,535	$ 16,950,295

The accompanying notes are an integral part of these financial statements.

PENSION PLAN FOR ELIGIBLE HOURLY REPRESENTED EMPLOYEES OF EQUISTAR CHEMICALS, LP

STATEMENTS OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS

	For the Year Ended December 31,	
	2018	**2017**
Investment (loss) income from the LyondellBasell Master Trust	$ (617,102)	$ 2,075,297
Employer contributions	400,000	400,000
Benefits paid to participants	(1,181,355)	(929,966)
Administrative expenses	(118,303)	(109,855)
Net (decrease) increase	(1,516,760)	1,435,476
Net assets available for benefits:		
Beginning of year	16,950,295	15,514,819
End of year	$ 15,433,535	$ 16,950,295

The accompanying notes are an integral part of these financial statements.

PENSION PLAN FOR ELIGIBLE HOURLY REPRESENTED EMPLOYEES OF EQUISTAR CHEMICALS, LP

STATEMENT OF ACCUMULATED PLAN BENEFITS

	December 31, 2017
Actuarial present value of accumulated plan benefits:	
Vested plan benefits:	
Participants currently receiving benefits	$ 7,234,176
Other participants	5,476,776
Total vested plan benefits	12,710,952
Non-vested plan benefits	602,298
Total actuarial present value of accumulated plan benefits	$ 13,313,250

The accompanying notes are an integral part of these financial statements.

PENSION PLAN FOR ELIGIBLE HOURLY REPRESENTED EMPLOYEES OF EQUISTAR CHEMICALS, LP

STATEMENT OF CHANGES IN ACCUMULATED PLAN BENEFITS

	For the Year Ended December 31, 2017
Actuarial present value of accumulated plan benefits at beginning of year (January 1, 2017)	$ 12,637,806
Increase (decrease) during the year attributable to:	
Additional benefits accumulated, including actuarial experience losses	120,761
Interest	970,727
Benefits paid to participants	(929,966)
Change in actuarial assumptions	513,839
Change in plan provisions	83
Net increase	675,444
Actuarial present value of accumulated plan benefits at end of year (December 31, 2017)	$ 13,313,250

The accompanying notes are an integral part of these financial statements.

1. Description of Plan

General – The Pension Plan for Eligible Hourly Represented Employees of Equistar Chemicals, LP (the "Plan") is a noncontributory defined benefit pension plan for eligible employees covered under certain collective bargaining agreements with Equistar Chemicals, LP ("Equistar" or "Company"), a wholly owned subsidiary of Lyondell Chemical Company ("Lyondell"). One such collective bargaining agreement was renegotiated effective February 1, 2014. The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA"). Participants should refer to the Plan document for a complete description of the Plan provisions.

Pension Benefits – Participants are entitled to monthly pension benefits upon retiring on or after the normal retirement age of 65, as defined in the Plan document. The Plan also permits early retirement at a reduced benefit level for participants who retire after reaching age 55 with ten or more years of membership service. If a participant terminates employment with at least five years of service but prior to eligibility for normal or early retirement, the participant is eligible for a deferred pension benefit commencing as early as age 55 (or at the participant's termination date if he or she terminated after reaching age 50), subject to reduction for early commencement. Participants receive their accumulated plan benefits as a monthly benefit or in an actuarially equivalent optional form available under the Plan.

Death and Disability Benefits – If a participant dies, any death benefits are paid to the participant's beneficiary, as described in the Plan document. Certain participants may be eligible for disability benefits upon becoming disabled after satisfying certain service requirements, as described in the Plan document.

Contributions – All contributions are made by the Company and participant contributions are not permitted under the terms of the Plan.

Administration – The Plan is administered by the Benefits Administrative Committee ("BAC"). Mercer is the Plan's recordkeeper and actuary. Plan assets are maintained in the LyondellBasell Master Trust ("Master Trust") under the custody of The Bank of New York Mellon ("Trustee"). Management of portfolio assets is directed by external investment managers hired and monitored by the Benefits Finance Committee ("BFC"). Both the BAC and BFC consist of individuals appointed by the Lyondell Board of Directors.

2. Summary of Significant Accounting Policies

Basis of Accounting – The financial statements of the Plan are prepared in accordance with generally accepted accounting principles in the United States of America ("U.S. GAAP").

Accounting Guidance Issued But Not Adopted as of December 31, 2018 – In February 2017, the Financial Accounting Standards Board (the "FASB") issued Accounting Standards Update ("ASU") 2017-06, *Plan Accounting (Topics 960,962,965)-Employee Benefit Plan Master Trust Reporting.* The amendments require that for each master trust in a which a plan holds an interest, the plan's interest in that master trust and any change in that interest, be presented in separate line items in the statement of net assets available for benefits and in the statement of changes in net assets available for benefits, respectively. In addition, the amendments remove the requirement to disclose the percentage interest in the master trust for plans with divided interests and require that all plans disclose the dollar amount of their interest in each of those general types of investments within the plan's financial statements. This amendment will be effective for periods beginning after December 15, 2018. Early adoption of this ASU is permitted but not required. The adoption of this amendment is not expected to have a material impact on the presentation of the Plan's financial statements.

Use of Estimates – The preparation of the Plan's financial statements in conformity with U.S. GAAP requires management to make significant estimates and assumptions that affect the reported amounts of net assets available for benefits and accumulated plan benefits at the date of the financial statements, the changes in net assets available for benefits and changes in accumulated plan benefits during the reporting period, and, when applicable, disclosures of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates.

Investment Valuation and Income Recognition – A separate account for the Plan is maintained by the Master Trust reflecting the Plan's share of the Master Trust. Interest in the Master Trust is determined on a monthly basis and is based upon the beginning of the month value of the Plan's interest in the Master Trust plus actual contributions and allocated investment income (loss), less actual distributions and an allocation of administrative expenses. Investments of the Master Trust are stated at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. See Note 9 for discussion of fair value measurements.

From time to time the Master Trust's investment managers may use derivative financial instruments including forward exchange contracts and future contracts. Derivative instruments are used primarily to mitigate exposure to foreign exchange rate and interest rate fluctuations as well as manage the investment mix in the portfolio. The Master Trust's interest in funds which utilize such financial instruments is not considered significant to the Plan's financial statements.

Purchases and sales of securities by the Master Trust are accounted for on a trade date basis (the date the order to buy or sell is originated). Gains or losses on the sale or distribution of securities are computed on a first-in, first-out basis. Dividend income is recorded on the ex-dividend date. Income from other investments is recorded as earned. The net appreciation or depreciation in the fair value of investments, which consist of the realized gains or losses and the unrealized appreciation or depreciation on those investments, is included in "Investment income from the LyondellBasell Master Trust" in the Statements of Changes in Net Assets Available for Benefits.

Interest and dividends earned, net appreciation or depreciation in the fair value of investments, and expenses incurred under the collective investment accounts of the Master Trust are allocated to the Plan based upon the average monthly investment balance in the Master Trust of each plan participating in the trust.

Risks and Uncertainties – The Master Trust invests in a combination of common and preferred stock, fixed income securities, bank common and commingled funds, short-term investments, open ended real estate funds, hedge funds, private equity funds, convertible securities, U.S. government securities, and cash and cash equivalents. Investment securities are exposed to various risks, such as market and credit risks. Changes in the values of investment securities will continue to occur in the near term and such changes could materially affect the amounts reported in the Statements of Net Assets Available for Benefits.

The actuarial present value of accumulated plan benefits is reported based on certain assumptions pertaining to interest rates, inflation rates and employee demographics, all of which are subject to change. Due to uncertainties inherent in the estimations and assumption process, it is at least reasonably possible that changes in these estimates and assumptions in the near term would be material to the financial statements.

Benefits Paid to Participants – Benefits are paid by the Plan and are recorded when paid.

Administrative Expenses – Certain administrative expenses are paid by the Plan and Plan sponsor. Administrative expenses paid by the Master Trust and allocated to the Plan were $68,115 and $68,456 for the years ended December 31, 2018 and 2017, respectively, and are included in "Investment income from the LyondellBasell Master Trust" in the Statements of Changes in Net Assets Available for Benefits. See Note 10 for discussion of related-party transactions.

3. Actuarial Present Value of Accumulated Plan Benefits

Accumulated plan benefits are those future periodic payments, including lump sum distributions, which are attributable under the Plan's provisions to the service that employees have rendered, as of the beginning of the plan year. Accumulated plan benefits include benefits expected to be paid to: (a) retired or terminated employees or their beneficiaries; (b) beneficiaries of employees who have died; and (c) present employees or their beneficiaries. Annual pension benefits earned and accrued under the Plan are generally based upon the greater of (i) the employee's compensation for each year of benefit service (not to exceed 35 years) multiplied by 1¼ percent or (ii) a minimum pension benefit rate multiplied by the total years of benefit service. Benefits payable under all circumstances, including retirement, death, and

termination of employment, are included to the extent that the circumstances are deemed attributable to employee services rendered up to the valuation date.

The 2017 actuarial present value of accumulated plan benefits was determined by the Plan's actuary, Mercer. The actuarial method used to determine the present value of accumulated plan benefits is the projected unit credit actuarial cost method. The more significant assumptions underlying the actuarial valuation are as follows:

	December 31, 2017
Investment return	7.50% per year
Interest rate	7.50% per year
Mortality table	RP-2014 Separate employee/annuitant healthy mortality table for males and females with no collar adjustment (with MP-2014 based mortality improvements from 2006 to 2014 backed out), projected generationally with scale MP-2018
Assumed average retirement age	62 years of age

In the Statement of Changes in Accumulated Plan Benefits, the change in actuarial assumptions was $513,839. This amount represents actuarial assumption changes since January 1, 2017 and includes changes to the assumption used to determine the lump sum conversions and the mortality assumption.

Plan contributions and the actuarial present value of accumulated plan benefits are prepared based upon certain assumptions pertaining to interest rates, inflation rates and employee demographics, all of which are subject to change.

The foregoing actuarial assumptions are based upon the presumption that the Plan will continue. If the Plan were to terminate, different actuarial assumptions and other factors might be applicable in determining the actuarial present value of accumulated plan benefits.

4. Funding Policy

The funding policy of the Company is to satisfy legal minimum funding requirements, as determined under the standard unit credit method, as adopted January 1, 2008, under the Pension Protection Act of 2006 ("PPA"), with the discretion to make additional contributions from time to time. Fluctuations in the return (interest, dividends, and net appreciation or depreciation in fair value) on investments of the Plan from the assumed rate serve to reduce or increase the future contributions required to provide for the benefits defined under the Plan.

Contributions for the years ended December 31, 2018 and 2017 were $400,000, and, as determined by the Plan's actuaries, met the minimum funding requirements under ERISA and the Internal Revenue Code of 1986 (the "Code"), each as amended by the PPA.

5. Plan Termination

Although it has not expressed any intention to do so, Equistar has the right, under the terms of the Plan document, to discontinue benefit accruals at any time and to terminate the Plan, subject to the applicable provisions of ERISA and the Code.

Participants' retirement allowances under the Plan are insured to the extent required by law through the Pension Benefit Guaranty Corporation ("PBGC"). If the Plan were to be terminated, priorities of payment of benefits would be made in accordance with the requirements of ERISA and the Code.

Whether all participants receive their benefits should the Plan terminate at some future time will depend on the sufficiency, at that time, of the Plan's net assets to provide for accumulated benefit obligations and may also depend on the financial condition of the Plan sponsor and the level of benefits guaranteed by the PBGC.

6. Tax Status

U.S. GAAP requires the Plan's management to evaluate tax positions taken by the Plan and recognize a tax liability (or asset) if the Plan has taken an uncertain position that more likely than not would not be sustained upon examination by the Internal Revenue Service ("IRS"). The plan administrator has analyzed the tax positions of the Plan, and has concluded that as of December 31, 2018 and 2017, there are no uncertain positions taken or expected to be taken that would require recognition of a liability (or asset) or disclosure in the financial statements. The Plan is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress.

The IRS issued a determination letter dated February 10, 2012, stating that the Plan and related Master Trust are designed in accordance with applicable sections of the Code. The Plan has been amended since receiving the determination letter. However, the BAC believes that the Plan is currently designed and being operated in compliance with the applicable requirements of the Code and, therefore, that the related trust is tax-exempt. Accordingly, no provision is made for federal income taxes.

7. Information Certified by the Plan's Trustee

The plan administrator has elected the method of compliance permitted by Section 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. Accordingly, the Trustee has certified that the following data included in the accompanying financial statements are complete and accurate:

- Plan interest in the Master Trust, at fair value, excluding accrued administrative expenses of $14,048 and $20,041 at December 31, 2018 and 2017, respectively
- Investment income from the Master Trust
- Investment amounts as shown in Note 8 and Note 9, except for the non-monetary information included in the net asset value per share table as shown in Note 9 which was not certified by the Trustee

8. Interest in LyondellBasell Master Trust

The Master Trust is a pooled investment trust composed of the beneficial interests of certain participating defined benefit plans ("Master Trust Plans") of Lyondell and certain of its subsidiaries and affiliates. The Master Trust consists of a portfolio of investments in a combination of common and preferred stock, fixed income securities, bank common and commingled funds, short-term investments, open ended real estate funds, hedge funds, private equity funds, convertible securities, U.S. government securities, and cash and cash equivalents.

Master Trust Plans do not own specific securities or other assets in the Master Trust but have an undivided interest in the Master Trust. The Plan's undivided interest in the investment holdings of the Master Trust, consisting of total investments, receivables from sales of securities, accrued interest, dividends and payables from purchases of securities, and other payables and receivables, was approximately 1% at both December 31, 2018 and 2017. Investment income related to the Master Trust is allocated to the Master Trust Plans based upon each plan's average monthly investment balance in the Master Trust.

NOTES TO THE FINANCIAL STATEMENTS

The net assets of the Master Trust as of December 31, 2018 and 2017 are as follows:

	December 31,	
	2018	**2017**
Assets		
Investments, at fair value:		
Common and preferred stock	$ 310,938,008	$ 395,999,316
Fixed income securities	206,455,667	227,548,720
Commingled funds	389,388,834	414,536,729
Real estate	107,169,222	103,522,601
Hedge funds	231,038,047	255,414,577
Private equity	113,047,719	95,780,543
U.S. government securities	145,695,263	153,961,700
Cash and cash equivalents	27,375,734	44,901,057
Total investments	1,531,108,494	1,691,665,243
Receivables:		
Sales of securities	592,941	785,205
Accrued interest and dividends	5,391,646	14,559,023
Total receivables	5,984,587	15,344,228
Cash - noninterest bearing	20,790	49,229
Total assets	1,537,113,871	1,707,058,700
Liabilities		
Purchase of securities	760,736	2,303,615
Other payables	576,289	9,925,176
Total liabilities	1,337,025	12,228,791
Net assets	$ 1,535,776,846	$ 1,694,829,909

The components of total investment (loss) income of the Master Trust for the years ended December 31, 2018 and 2017 are as follows:

	2018	2017
Investment (loss) income:		
Net appreciation in fair value of investments	$ (79,366,082)	$ 192,320,668
Interest, dividend and other income:		
Interest income	10,923,038	10,512,817
Dividend income	11,616,976	12,593,529
Other income [(a)]	1,762,427	5,232,609
Total	24,302,441	28,338,955
Total investment (loss) income	$ (55,063,641)	$ 220,659,623

[(a)] Comprised of income generated from the Master Trust's investment in partnership arrangements.

9. Fair Value Measurements

ASC 820, *Fair Value Measurements*, defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. ASC 820 also specifies a fair value hierarchy based upon the observability of inputs used in valuation techniques. Observable inputs (highest level) reflect market data obtained from independent sources, while unobservable inputs (lowest level) reflect internally-developed market assumptions. In accordance with ASC 820, fair value measurements are classified using the following hierarchy:

Level 1 – Quoted prices for identical instruments in active markets.

Level 2 – Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs or significant value-drivers are observable in active markets.

Level 3 – Model-derived valuations in which one or more significant inputs or significant value-drivers are unobservable.

When available, quoted market prices are used to determine fair value and such measurements are classified within Level 1. In some cases where market prices are not available, observable market based inputs are used to calculate fair value, in which case the measurements are classified within Level 2. If quoted or observable market prices are not available, fair value is based upon internally-developed models that use, where possible, current market-based parameters such as interest rates, yield curves and currency rates. These measurements are classified within Level 3.

Fair value measurements are classified according to the lowest level input or value-driver that is significant to the valuation. A measurement may therefore be classified within Level 3 even though there may be significant inputs that are readily observable.

Changes in Fair Value Levels – Management reviews the disclosures regarding fair value measurements annually at year end. If an instrument classified as Level 1 subsequently ceases to be actively traded, it is transferred out of Level 1. In such cases, instruments are reclassified as Level 2, unless the measurement of its fair value requires the use of significant unobservable inputs, in which case it is reclassified as Level 3.

Valuation methodologies used for major investment types measured at fair value include:

Common and preferred stock – Valued at the closing price reported on the active market on which the individual securities are traded.

Fixed income securities – Certain securities that are not traded on an exchange are valued at the closing price reported by pricing services. Other securities are valued based on yields currently available on comparable securities of issuers with similar credit ratings.

Commingled funds – Valued based upon the unit values of such collective trust funds held by the Master Trust at year end. Unit values are based on the fair value of the underlying assets of the fund derived from inputs principally from, or corroborated by, observable market data by correlation or other means.

Real estate – Valued on the basis of a discounted cash flow approach, which includes the future rental receipts, expenses, and residual values as the highest and best use of the real estate from a market participant view as rental property.

Hedge funds – Valued based upon the unit values of such alternative investments held by the Master Trust at year end. Unit values are based on the fair value of the underlying assets of the fund.

Private equity – Valued based upon the unit values of such alternative investments held by the Master Trust at year end. Unit values are based on the fair value of the underlying assets of the fund. Certain securities held in the fund are valued at the closing price reported on the exchange or other established quotation service for over-the-counter securities. Other assets held in the fund are valued based on the most recent financial statements prepared by the fund manager.

Convertible securities – Valued at the quoted prices for similar assets or liabilities in active markets.

U.S. government securities – Certain securities are valued at the closing price reported on the active market on which the individual securities are traded. Other securities are valued based on yields currently available on comparable securities of issuers with similar credit ratings.

Cash and cash equivalents – Valued at the quoted prices for similar assets or liabilities in active markets.

The preceding methods described may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, although the Company believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

NOTES TO THE FINANCIAL STATEMENTS

The investments of the Master Trust that are measured at fair value as of December 31, 2018 are summarized below:

	December 31, 2018			
	Fair Value	Level 1	Level 2	Level 3
Common and preferred stock measured at net asset value*	$ 310,938,008	$ 310,347,183	$ 107,700	$ —
Fixed income securities measured at net asset value*	206,455,667	—	206,455,667	—
Commingled funds measured at net asset value*	389,388,834	—	—	—
Real estate measured at net asset value*	107,169,222	—	—	—
Hedge funds measured at net asset value*	231,038,047	—	—	—
Private equity measured at net asset value*	113,047,719	—	—	—
U.S. government securities	145,695,263	145,695,263	—	—
Cash and cash equivalents	27,375,734	27,375,734	—	—
Total investments in Master Trust	$ 1,531,108,494	$ 483,418,180	$ 206,563,367	$ —

The investments of the Master Trust that are measured at fair value as of December 31, 2017 are summarized below:

	December 31, 2017			
	Fair Value	Level 1	Level 2	Level 3
Common and preferred stock measured at net asset value*	$ 395,999,316	$ 395,328,411	$ 160,175	$ —
Fixed income securities measured at net asset value*	227,548,720	—	227,392,055	—
Commingled funds measured at net asset value*	414,536,729	—	—	—
Real estate measured at net asset value*	103,522,601	—	—	—
Hedge funds measured at net asset value*	255,414,577	—	—	—
Private equity measured at net asset value*	95,780,543	—	—	—
U.S. government securities	153,961,700	153,961,700	—	—
Cash and cash equivalents	44,901,057	44,901,057	—	—
Total investments in Master Trust	$ 1,691,665,243	$ 594,191,168	$ 227,552,230	$ —

* In accordance with Fair Value Measurement Topic 820, Subtopic 10, certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The amounts presented in this table are intended to facilitate reconciliation to the Financial Statements.

NOTES TO THE FINANCIAL STATEMENTS

The following table summarizes investments measured at fair value based on net asset value (NAVs) per share as of December 31, 2018 and 2017, respectively:

	December 31, 2018					
	Fair Value	Unfunded Commitments	Remaining Life	Redemption Frequency (if currently eligible)	Trade to Settlement Terms	Redemption Notice Period
Common and preferred stock [(a)]	$ 483,126	$ —	N/A	pending market condition	N/A	daily
Fixed income securities[(b)]	—	—	N/A	daily, pending market condition	2 to 5 days	daily
Commingled fund investing in Domestic Equity [(c)]	92,109,982	—	N/A	daily, pending market condition	1 to 3 days	3 to 4 days
Commingled fund investing in International Equity [(d)]	56,079,581	—	N/A	daily, pending market condition	1 to 3 days	3 days
Commingled fund investing in Fixed Income [(e)]	241,199,271	—	N/A	daily, pending market condition	1 to 3 days	3 to 7 days
Real Estate [(f)]	107,169,222	8,016,724	10 years	quarterly, pending market condition	15 to 25 days	45 to 90 days
Hedge Funds [(g)]	231,038,047	—	N/A	monthly, pending market condition	10 to 30 days	20 to 90 days
Private Equity [(h)]	113,047,719	92,408,541	10 years	quarterly, pending market condition	N/A	N/A
Total	$ 841,126,948	$ 100,425,265				

	December 31, 2017					
	Fair Value	Unfunded Commitments	Remaining Life	Redemption Frequency (if currently eligible)	Trade to Settlement Terms	Redemption Notice Period
Common and preferred stock[a]	$ 510,730	$ —	N/A	pending market condition	N/A	daily
Fixed income securities[b]	156,665	—	N/A	daily, pending market condition	2 to 5 days	daily
Commingled fund investing in Domestic Equity [c]	106,952,298	—	N/A	daily, pending market condition	1 to 3 days	3 to 4 days
Commingled fund investing in International Equity [d]	63,698,560	—	N/A	daily, pending market condition	1 to 3 days	3 days
Commingled fund investing in Fixed Income [e]	243,885,871	—	N/A	daily, pending market condition	1 to 3 days	3 to 7 days
Real Estate [f]	103,522,601	10,010,788	10 years	quarterly, pending market condition	15 to 25 days	45 to 90 days
Hedge Funds [g]	255,414,577	—	N/A	monthly, pending market condition	10 to 30 days	20 to 90 days
Private Equity [h]	95,780,543	87,967,735	10 years	quarterly, pending market condition	N/A	N/A
Total	$ 869,921,845	$ 97,978,523				

(a) This category represents a group of preferred stocks that, when combined with other equity securities of like characteristics seeks to achieve greater returns than the MSCI World Index. At December 31, 2018, there were no redemption restrictions on these funds.
(b) This category represents a group of fixed income securities that, when combined with other securities of like characteristics, seeks to achieve greater returns than a custom Liability Hedge Benchmark (60% Bloomberg Barclays Long Credit Index, 40% Citigroup 20+ STRIPS Index). At December 31, 2018, there were no redemption restrictions on these funds.
(c) This category represents a common collective trust fund that seeks to approximate the total return of the S&P 500 Total Return Index. At December 31, 2018, there were no redemption restrictions on this fund.
(d) This category represents a group of common collective trusts that seek to achieve greater returns than the MSCI Emerging Market Net Dividend Index. At December 31, 2018, there were no redemption restrictions on these funds.
(e) This category represents a group of common collective trusts that seek to achieve greater returns than the Citigroup World Government Bond Index, and JP Morgan Emerging Markets Global Bond Index. At December 31, 2018, there were no redemption restrictions on these funds.
(f) This category represents our investments in real estate funds and private real estate limited partnerships that seek to achieve greater returns than the NCREIF Property 1Q in Arrears index. At December 31, 2018, there were no redemption restrictions on these funds. Private real estate partnerships are illiquid investments. As such, the specific redemption restrictions and guidelines are incorporated in a Limited Partnership Agreement, Limited Liability Company Agreement, or other binding agreement as is appropriate for the investment.
(g) This category represents our investments in hedge funds either directly or through fund of funds that seek to achieve greater returns than the HFRI Fund of Funds Diversified Index. At December 31, 2018, there were no redemption restrictions on these funds.
(h) This category represents capital commitments to private placement limited partnerships that seek to approximate the total return of the Cambridge Associates U.S. Private Equity 1QA Index over a market cycle. Private equity partnerships are illiquid investments. As such, the specific redemption restrictions and guidelines are incorporated in a Limited Partnership Agreement, Limited Liability Company Agreement, or other binding agreement as is appropriate for the investment.

10. Related-Party Transactions

The Plan, through its interest in the Master Trust, holds shares of short-term investment and S&P Index funds managed by Mellon Capital, a subsidiary of The Bank of New York Mellon, the Trustee of the Plan. These transactions fall under the definition of a party-in-interest transaction; however, the Company does not believe that they give rise to prohibited transactions under ERISA. Fees paid by the Company on behalf of the Plan for certain administrative costs were approximately $24,487 and $29,757 in 2018 and 2017, respectively.

11. Commitments and Contingencies

The Plan is subject to commitments and contingencies arising from the ordinary course of business to which the Plan is a party. It is management's belief that the ultimate resolution of these commitments and contingencies will not have a material adverse impact on the Plan's financial statements.

12. Subsequent Events

The Company has evaluated subsequent events through September 26, 2019, the date the financial statements were available to be issued.

Schedule SB, line 26 — Schedule of Active Participant Data

ATTAINED AGE	YEARS OF CREDITED SERVICE										
	UNDER 1	1–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40 & UP	TOTAL
Under 25											
25–29		2									2
30–34			3	2							5
35–39		3	4								7
40–44		3	8	2							13
45–49		1	2	3	3						9
50–54		7	5	1	3	1	1				18
55–59		1	6	5	1	1		1			15
60–64			2	1	1			1		2	7
65–69				1				1			2
70 & up				1						1	2
Total		17	30	16	8	2	1	3		3	80

In each cell, the number is the count of active and transfer/LOA participants for each age/service combination.

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

ACTUARIAL ASSUMPTIONS FOR JANUARY 1, 2018

DISCOUNT RATE SPONSOR ELECTIONS			
• Segment rates or full yield curve	Segment		
• Look-back months	4		
•	**Stabilized**	**Nonstabilized**	
• First 5 years	3.92%	1.75%	
• Next 15 years	5.52%	3.76%	
• Over 20 years	6.29%	4.66%	
MORTALITY SPONSOR ELECTIONS			
• Healthy and disabled participants	Section 430(h)(3) prescribed separate static annuitant and non-annuitant mortality tables. These tables are based on the RP 2000 mortality tables projected with mortality improvement to the valuation year plus 7 and 15 years based on Scale AA.		
417(E) LUMP SUMS	Liabilities are determined based on the underlying annuity used by the plan to determine the lump sum amount, rather than valuing the lump sum payment. This annuity is valued based on funding interest rates rather than 417(e) rates and current year 417(e) unisex mortality.		
OTHER ECONOMIC ASSUMPTIONS			
• Salary increases	See table of sample rates		
• Flat-dollar benefit increases	0.00% per year		
• Social Security wage base	Not applicable		
• Inflation	2.50% per year		
• Expected investment return	7.50% for year 2018, 8.00% per year for years 2016 through 2017		
• Expenses	Expected administrative expenses (assumed to equal prior year administrative expenses but adjusted for PBGC premium, with current year PBGC premiums replacing prior year) discounted with the effective interest rate to the beginning of the year are included in normal cost.		

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

DEMOGRAPHIC ASSUMPTIONS

- Withdrawal: See table of sample rates. (Withdrawal incidence is assumed to cease when participant first attains eligibility for Early retirement or Normal retirement under the terms of the plan.)
- Disability incidence: 100% of 1985 Pension Disability Table, Class 2, Sex Distinct published in the 1986 Proceedings of the Conference of Consulting Actuaries. See table of sample rates.
- Retirement incidence:

Attained Age	Percentage
55	10%
56	10
57	10
58	10
59	15
60	15
61	15
62	30
63	20
64	20
65	30
66	30
67	30
68	30
69	30
70 and above	100

(Retirement incidence is assumed to begin when participant first attains eligibility for Early retirement or Normal retirement under the terms of the plan.)

- Benefit commencement age for
  - Future and current vested deferred: 62
  - Future and current disabled participants: Immediate, if eligible. Otherwise, 65

• Spouse assumptions	**MALE PARTICIPANTS**	**FEMALE PARTICIPANTS**
– Percentage married	80%	80%
– Spouse age difference	4 years younger	3 years older

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

FORM OF PAYMENT	**LUMP SUM**	**SINGLE LIFE**	**100% J&S**	**50% J&S**
• Port Arthur and Tuscola				
– Active retirements	90%	3.5%	6.5%	0%
– Future vested deferred	0%	35%	65%	0%
– Future disabilities	90%	3.5%	6.5%	0%
– Future deaths	90%	0%	0%	10%
– Current vested deferred	0%	35%	65%	0%
• All others				
– Active retirements	0%	35%	65%	0%
– Future vested deferred	0%	35%	65%	0%
– Future disabilities	0%	35%	65%	0%
– Future deaths	0%	0%	0%	100%
– Current vested deferred	0%	35%	65%	0%
UNPREDICTABLE CONTINGENT EVENT ASSUMPTIONS	Not applicable			
AT-RISK ASSUMPTIONS	Not applicable			

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

Table of Sample Rates

ATTAINED AGE	PERCENTAGE		
	DISABILITY INCIDENCE		WITHDRAWAL
	MALE	FEMALE	
20	0.064%	0.055%	10.0%
25	0.093	0.096	10.0
30	0.134	0.165	6.5
35	0.199	0.252	6.0
40	0.314	0.357	6.0
45	0.505	0.522	6.0
50	0.830	0.854	3.5
55	1.502	1.490	3.5
60	2.266	1.793	3.5
65	3.028	2.095	3.5

ATTAINED AGE	PERCENTAGE
	SALARY INCREASES
20-29	4.3%
30-39	4.3%
40-49	4.2%
50-59	3.8%
60-69	3.3%

ACTUARIAL METHODS

Asset Methods

The asset valuation method is an average of the adjusted market value for each year during the last 2 years preceding the valuation date. The adjusted market value is the market value at each determination date adjusted to the valuation date based on actual cash flows and expected interest at the lesser of the expected rate of return and the third segment rate. This amount is adjusted to be no greater than 110% and no less than 90% of the fair market value, as defined in IRC Section 430.

A characteristic of this asset method is that, over time, it is slightly more likely to produce an actuarial value of assets that is less than the market value of assets than an actuarial value that is greater than the market value.

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

Participant Methods
Participants or former participants are included or excluded from the valuation as described below:

- **Participants included:** The plan sponsor provides us with data on all employees as of the valuation date, but only those employees who have completed the plan's eligibility requirements are included in the valuation of liabilities.

- **Participants excluded:** No actuarial liability is included for nonvested participants who terminated prior to the valuation date. For this purpose, participants with a break in service on the valuation date are treated as terminated participants.

- **Insurance contracts**: The plan does not have any insurance contracts.

Minimum Funding Methods
The funding target for minimum funding calculations is computed using the traditional unit credit method of funding. The objective under this method is to fund each participant's benefits under the plan as they accrue. Thus, the total pension to which each participant is expected to become entitled at retirement is broken down into units, each associated with a year of past or future credited service.

A detailed description of the calculation follows:

- The plan's valuation date is the beginning of the plan year.

- An individual's **funding target** is the present value of future benefits based on credited service and average pay as of the beginning of the plan year, and an individual's **target normal cost** is the present value of the benefit expected to accrue in the plan year. If multiple decrements are used, the funding target and the target normal cost for an individual is the sum of the component funding targets and target normal costs associated with the various anticipated separation dates.

- This plan provides disability benefits that are only partially based on a participant's accrued benefit or years of service. This benefit is allocated to funding target based on the accrued benefit on the valuation date plus a portion of the excess of the benefit over the accrued benefit multiplied by the ratio of the participant's service at the beginning of the plan year to their service at each decrement age. This benefit is allocated to target normal cost based on the proportionate benefit attributable to the increase in the participant's service and compensation during the plan year.

- The plan's **target normal cost** is the sum of the individual target normal costs, and the plan's **funding target** is the sum of the individual funding targets for all participants under the plan.

SCHEDULE SB (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Single-Employer Defined Benefit Plan Actuarial Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code).

▶ File as an attachment to Form 5500 or 5500-SF.

OMB No. 1210-0110

2018

This Form is Open to Public Inspection

For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

▶ **Round off amounts to nearest dollar.**

▶ **Caution:** A penalty of $1,000 will be assessed for late filing of this report unless reasonable cause is established.

A Name of plan
PENSION PLAN FOR ELIGIBLE HOURLY REPRESENTED EMPLOYEES OF EQUISTAR CHEMICALS LP

B Three-digit plan number (PN) ▶ 001

C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF
EQUISTAR CHEMICALS, LP

D Employer Identification Number (EIN)
76-0550481

E Type of plan: [X] Single [ ] Multiple-A [ ] Multiple-B

F Prior year plan size: [ ] 100 or fewer [ ] 101-500 [X] More than 500

Part I Basic Information

1 Enter the valuation date: Month 01 Day 01 Year 2018

2 Assets:

a Market value	2a	16,909,732
b Actuarial value	2b	16,159,884

3 Funding target/participant count breakdown

	(1) Number of participants	(2) Vested Funding Target	(3) Total Funding Target
a For retired participants and beneficiaries receiving payment	188	8,142,328	8,142,328
b For terminated vested participants	72	2,293,555	2,293,555
c For active participants	80	3,875,174	4,400,271
d Total	340	14,311,057	14,836,154

4 If the plan is in at-risk status, check the box and complete lines (a) and (b) [ ]

a Funding target disregarding prescribed at-risk assumptions	4a	
b Funding target reflecting at-risk assumptions, but disregarding transition rule for plans that have been in at-risk status for fewer than five consecutive years and disregarding loading factor	4b	
5 Effective interest rate	5	5.69%
6 Target normal cost	6	340,909

Statement by Enrolled Actuary

To the best of my knowledge, the information supplied in this schedule and accompanying schedules, statements and attachments, if any, is complete and accurate. Each prescribed assumption was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.

SIGN HERE

PAB
Signature of actuary

10/8/2019
Date

PENNY A. BAILEY
Type or print name of actuary

1705451
Most recent enrollment number

MERCER
Firm name

314-588-2500
Telephone number (including area code)

701 MARKET ST., SUITE 1100
ST. LOUIS MO 63101-1867
Address of the firm

If the actuary has not fully reflected any regulation or ruling promulgated under the statute in completing this schedule, check the box and see instructions [ ]

Part II Beginning of Year Carryover and Prefunding Balances

		(a) Carryover balance	(b) Prefunding balance
7	Balance at beginning of prior year after applicable adjustments (line 13 from prior year)	0	1,996,723
8	Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	0
9	Amount remaining (line 7 minus line 8)	0	1,996,723
10	Interest on line 9 using prior year's actual return of 14.04%	0	280,340
11	Prior year's excess contributions to be added to prefunding balance:		
	a Present value of excess contributions (line 38a from prior year)		12,712
	b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of 5.88%		747
	b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		
	c Total available at beginning of current plan year to add to prefunding balance		13,459
	d Portion of (c) to be added to prefunding balance		13,459
12	Other reductions in balances due to elections or deemed elections	0	376,138
13	Balance at beginning of current year (line 9 + line 10 + line 11d – line 12)	0	1,914,384

Part III Funding Percentages

14	Funding target attainment percentage	14	96.01%
15	Adjusted funding target attainment percentage	15	108.92%
16	Prior year's funding percentage for purposes of determining whether carryover/prefunding balances may be used to reduce current year's funding requirement	16	97.31%
17	If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage.	17	%

Part IV Contributions and Liquidity Shortfalls

18 Contributions made to the plan for the plan year by employer(s) and employees:

(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees	(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees
09/05/2019	400,000	0			
			Totals ▶ 18(b)	400,000	18(c) 0

19	Discounted employer contributions – see instructions for small plan with a valuation date after the beginning of the year:		
	a Contributions allocated toward unpaid minimum required contributions from prior years	19a	0
	b Contributions made to avoid restrictions adjusted to valuation date	19b	0
	c Contributions allocated toward minimum required contribution for current year adjusted to valuation date	19c	364,554

20 Quarterly contributions and liquidity shortfalls:

a Did the plan have a "funding shortfall" for the prior year? [X] Yes [ ] No

b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? [X] Yes [ ] No

c If line 20a is "Yes," see instructions and complete the following table as applicable:

Liquidity shortfall as of end of quarter of this plan year

(1) 1st	(2) 2nd	(3) 3rd	(4) 4th
0	0	0	0

Part V Assumptions Used to Determine Funding Target and Target Normal Cost

21 Discount rate:

a Segment rates:

1st segment:	2nd segment:	3rd segment:	
3.92%	5.52%	6.29%	☐ N/A, full yield curve used

b Applicable month (enter code) — **21b**: 4

22 Weighted average retirement age — **22**: 61

23 Mortality table(s) (see instructions)

Prior regulation: ☐ Prescribed - combined ☒ Prescribed - separate ☐ Substitute

Current regulation: ☐ Prescribed - combined ☐ Prescribed - separate ☐ Substitute

Part VI Miscellaneous Items

24 Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment. ☒ Yes ☐ No

25 Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment. ☐ Yes ☒ No

26 Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment. ☒ Yes ☐ No

27 If the plan is subject to alternative funding rules, enter applicable code and see instructions regarding attachment — **27**:

Part VII Reconciliation of Unpaid Minimum Required Contributions For Prior Years

28 Unpaid minimum required contributions for all prior years	**28**	0
29 Discounted employer contributions allocated toward unpaid minimum required contributions from prior years (line 19a)	**29**	0
30 Remaining amount of unpaid minimum required contributions (line 28 minus line 29)	**30**	0

Part VIII Minimum Required Contribution For Current Year

31 Target normal cost and excess assets (see instructions):

a Target normal cost (line 6)	**31a**	340,909
b Excess assets, if applicable, but not greater than line 31a	**31b**	0

32 Amortization installments:

	Outstanding Balance	Installment
a Net shortfall amortization installment	590,654	96,424
b Waiver amortization installment	0	0

33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount — **33**:

34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33) — **34**: 437,333

	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement	0	338,190	338,190

36 Additional cash requirement (line 34 minus line 35)	**36**	99,143
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	**37**	364,554

38 Present value of excess contributions for current year (see instructions)

a Total (excess, if any, of line 37 over line 36)	**38a**	265,411
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances	**38b**	265,411
39 Unpaid minimum required contribution for current year (excess, if any, of line 36 over line 37)	**39**	0
40 Unpaid minimum required contributions for all years	**40**	0

Part IX Pension Funding Relief Under Pension Relief Act of 2010 (See Instructions)

41 If an election was made to use PRA 2010 funding relief for this plan:

a Schedule elected ☐ 2 plus 7 years ☐ 15 years

b Eligible plan year(s) for which the election in line 41a was made ☐ 2008 ☐ 2009 ☐ 2010 ☐ 2011

Schedule SB, line 22 — Description of Weighted Average Retirement Age

Each employee is assumed to retire in accordance with the table of retirement rates. The proportion of employees expected to retire at each potential retirement age is shown below. The average retirement age is 61.

(A) Retirement age	(B) Retirement Percent	(C) Lx	(D) Number of employees expected to retire (B) x (C)	(E) (A) x (D)
55	10%	10,000	1,000	55,000
56	10%	9,000	900	50,400
57	10%	8,100	810	46,170
58	10%	7,290	729	42,282
59	15%	6,561	984	58,065
60	15%	5,577	837	50,192
61	15%	4,740	711	43,374
62	30%	4,029	1,209	74,944
63	20%	2,820	564	35,538
64	20%	2,256	451	28,882
65	30%	1,805	542	35,200
66	30%	1,264	379	25,019
67	30%	885	265	17,779
68	30%	619	186	12,631
69	30%	433	130	8,972
70	100%	303	303	21,237
Total			10,000	605,683
Average				60.57

Schedule SB, Part V — Summary of Plan Provisions

SUMMARY OF MAJOR PLAN PROVISIONS

Effective date and plan year	Original plan: January 1, 1962. Restated plan: January 1, 2011. Plan year: Calendar year.
Status of the plan	The plan has ongoing benefit accruals. The plan is closed to new entrants at the Tuscola plant as of November 3, 2014, at the Fairport Harbor plant as of June 25, 2015 and at the Newark plant as of February 1, 2017. There are no employees at the Port Arthur plant.
Significant events that occurred during the year	None
DEFINITIONS	
• Eligible Employee	All represented employees of the company working and hired prior to November 3, 2014 at the Tuscola plant, hired prior to June 25, 2015 at the Fairport Harbor plant and hired prior to February 1, 2017 at the Newark plant. There are no employees working at the Port Arthur plant.
• Participation	Participation prior to April 1, 1988 is governed by plan provisions in effect at date of participation. After March 31, 1988, participation is immediate upon becoming a represented employee of the Newark, Tuscola, Fairport Harbor, or Port Arthur plant.
• Benefit service	
– Newark plant	All service from the first day of the calendar month following the date of employment.
– Tuscola plant	All service from the first day of the calendar month following the date of employment.
– Fairport Harbor plant	All service from the first day of the calendar month following the date of employment, or January 1, 1966 if later.
– Port Arthur plant	All service from the first day of the calendar month following the date of employment, or February 1, 1984 if later.
– Maximum service	35 years.
• Compensation	Base salary wages determined prior to pre-tax contributions, excluding all extra pay such as overtime, premiums, bonuses, or other allowances.
• Normal Retirement age	Age 65, except if became member on or after January 1, 1998, later of age 65 and 5 years of service.
• Normal Retirement date	First day of the calendar month immediately after an employee's normal retirement age.

Schedule SB, Part V — Summary of Plan Provisions

NORMAL RETIREMENT PENSION

- Eligibility: Normal retirement age.
- Pension: Sum of (i) and (ii), or (i) and (iii) for all members, subject to the minimum pension.
  - (i) 1-1/4% of Compensation during each year of benefit service on and after January 1, 1962,
  - (ii) (a) ¾% of first $3,000 of base compensation during each year of benefit service between January 1, 1944 and January 1,1962 plus 2% of such compensation in excess of $3,000, plus,
    (b) 1% of first $3,000 of average annual compensation during 3-year period preceding January 1, 1944 plus 1-3/4% of such compensation in excess of $3,000 multiplied by years of benefit service prior to January 1, 1944.
  - (iii) Pension determined by Board of Directors for service while covered under former plan.
- Minimum pension: Pension for the periods of service in (i) and (ii) shall be no less than the minimum pension for members at the following plants:
  - Fairport Harbor plant

Effective date	Minimum annual pension per year of benefit service
January 1, 1998	$ 264
January 1, 1999	276
January 1, 2000	288
January 1, 2001	336
January 1, 2002	348
January 1, 2003	360
January 1, 2005	384
January 1, 2006	408
January 1, 2007	432
January 1, 2008	444
April 21, 2012	468
June 24, 2013	492
June 24, 2014	516
June 24, 2015	528
June 24, 2016	540
June 24, 2018	552

Schedule SB, Part V — Summary of Plan Provisions

– Tuscola plant	**Effective date**	**Minimum annual pension per year of benefit service**
	December 31, 1993	$ 348
	November 1, 2000	372
	November 1, 2001	396
	November 6, 2002	420
	November 6, 2003	444
	November 1, 2006	456
	November 1, 2007	468
	November 1, 2008	480
	November 1, 2009	492
	November 1, 2014	504
	November 1, 2015	516
	November 1, 2016	528
	November 1, 2017	540
– Newark plant	**Effective date**	**Minimum annual pension per year of benefit service**
	February 1, 1997	$ 240
	February 1, 1998	246
	February 1, 1999	252
	February 1, 2000	264
	February 1, 2001	276
	February 1, 2002	312
	February 1, 2003	324
	February 1, 2004	336
	February 1, 2005	348
	February 1, 2006	360
	February 1, 2007	372
	February 1, 2008	408
	February 1, 2009	444
	February 1, 2010	456
	February 1, 2011	480
	February 1, 2013	492
	February 1, 2014	504
	February 1, 2015	516
	February 1, 2016	528
	February 1, 2017	534
	February 1, 2018	540
	February 1, 2019	546
– Port Arthur plant	**Effective date**	**Minimum annual pension per year of benefit service**
	April 1, 1997	$ 348
	April 1, 1998	360
	April 1, 1999	372

Schedule SB, Part V — Summary of Plan Provisions

EARLY RETIREMENT PENSION	
• Eligibility	Age 55 and either (i) 10 years of service or (ii) suffers special hardship.
• Pension	
– Fairport Harbor and Newark (and Port Arthur prior to April 1, 1997)	Accrued pension deferred to normal retirement date, or an immediate pension equal to accrued pension reduced by ¼% for each month by which commencement precedes normal retirement date.
– Tuscola (effective January 1, 1995) and Port Arthur (effective April 1, 1997)	Accrued pension deferred to normal retirement date, or an immediate pension equal to accrued pension reduced by 5/12% for each month by which commencement precedes age 62.
DISABILITY RETIREMENT PENSION	
• Eligibility	10 years of service and permanently incapacitated. (This pension is no longer applicable for the Tuscola plant effective December 1, 1990 or for the Port Arthur plant effective May 1, 1994).
• Pension	Accrued pension reduced by ¼% for each month by which disability date precedes normal retirement date.
• Minimum pension	Disability pension shall be no less than the minimum pension for members at the following plants:
– Fairport Harbor plant	

Effective date	Minimum annual disability pension per year of benefit service
January 1, 1998	$ 264
January 1, 1999	276
January 1, 2000	288
January 1, 2001	336
January 1, 2002	348
January 1, 2003	360
January 1, 2005	384
January 1, 2006	408
January 1, 2007	432
January 1, 2008	444
April 21, 2012	468
June 24, 2013	492
June 24, 2014	516
June 24, 2015	528
June 24, 2016	540
June 24, 2018	552

Schedule SB, Part V — Summary of Plan Provisions

– Newark plant	**Effective date** / **Minimum annual disability pension per year of benefit service** February 1, 1997 — $ 240 February 1, 1998 — 246 February 1, 1999 — 252 February 1, 2000 — 264 February 1, 2001 — 276 February 1, 2002 — 312 February 1, 2003 — 324 February 1, 2004 — 336 February 1, 2005 — 348 February 1, 2006 — 360 February 1, 2007 — 372 February 1, 2008 — 408 February 1, 2009 — 444 February 1, 2010 — 456 February 1, 2011 — 480 February 1, 2013 — 492 February 1, 2014 — 504 February 1, 2015 — 516 February 1, 2016 — 528 February 1, 2017 — 534 February 1, 2018 — 540 February 1, 2019 — 546
DISABILITY RETIREMENT PENSION FOR TUSCOLA AND PORT ARTHUR	
• Eligibility	5 years of service and eligible for LTD benefit. (Effective December 1, 1990 for the Tuscola plant, and effective May 1, 1994 for the Port Arthur plant).
• Pension	Pension at date payments begin, equal to accrued pension at time of disability plus a benefit based on the dollar minimum in effect at the time of disability multiplied by the years of benefit service earned while disabled. A member will receive credit for pension purposes while receiving benefits under the Company's LTD Plan, from date of disability until normal retirement. Payment is deferred until member ceases to receive benefits under Company's LTD Plan.
DEFERRED VESTED PENSION	
• Eligibility	5 years of service.
• Pension	Accrued pension deferred to normal retirement date or an actuarially reduced pension commencing (i) immediately, if age 50 or over at termination or (ii) at age 55.

Schedule SB, Part V — Summary of Plan Provisions

REGULAR DEATH BENEFIT	
• Eligibility	Death in active service and not in a group covered by other plan providing death benefits to which the Company makes payments. (This benefit is no longer provided for the Tuscola plant, effective December 1, 1990, or for the Port Arthur plant, effective May 1, 1994.)
• Benefit	Lump sum equal to 150% of annual rate of compensation at date of death plus return of member's accumulated contributions, if any. This benefit is reduced by compensation under Worker's Compensation affecting Company due to death of member and any death benefit (employer provided) payable under any other retirement or pension plan maintained by the Company.
DEATH BENEFIT AFTER AGE 55	
• Eligibility	Death in active service after age 55 and covered by the regular death benefit. (This benefit is no longer provided for the Tuscola plant, effective December 1, 1990, or for the Port Arthur plant, effective May 1, 1994).
• Benefit	Lump sum, in lieu of regular death benefit, equal to the greater of (i) or (ii): (i) 85% of the member's retirement pension reserve at time of death. This benefit is reduced by compensation under Worker's Compensation affecting Company due to death of member. (ii) Regular death benefit. May elect to convert lump sum to a life annuity with or without 10 or 20 years guaranteed.
DEATH AFTER RETIREMENT BENEFIT	
• Eligibility	Death after normal, early or disability retirement. (For members at the Tuscola plant retiring on or after December 1, 1990, and members at the Port Arthur plant retiring on or after May 1, 1994, this benefit is no longer provided.)
• Benefit	Lump sum of $2,000 for members at the Newark and Fairport Harbor plants.
RETURN OF CONTRIBUTIONS	
• Upon termination	Return of the accumulated contributions at the date of termination if elected. If participant ceased making contributions prior to January 1, 1962, service prior to January 1, 1962 is forfeited in calculating benefits.
• Upon death before commencement of benefits	If no other benefit, other than death after retirement benefit, is payable, accumulated contributions are paid as a lump sum to the designated beneficiary or estate.

Schedule SB, Part V — Summary of Plan Provisions

SPOUSE PENSION	
• Eligibility	Death of married member who has been married one year and one of the following requirements is met:
– Active service	In active service after completion of 5 years of service and not eligible for or does not elect regular death benefit. (Effective December 1, 1990, for all members at the Tuscola plant, and effective February 1, 1995 for all members at the Port Arthur plant – in active service or while receiving LTD benefits after completion of 5 years of service.)
– After termination	After termination with entitlement to deferred vested pension (10 years of service required if termination occurred between January 1, 1976 and August 23, 1984).
• Pension	
– Active service	
• Age 50 and older	Amount equal to 50% of the pension which would have been payable to the member if he retired with an immediate pension on his date of death under normal form of payment.
• Under age 50	Deferred pension commencing when member would have been age 55 equal to 50% of the pension which would have been payable to the member if he had terminated with a vested pension on his date of death, survived to age 55 and elected to retire with an immediate pension under the normal form of payment.
– After termination but before payments commence	If former member was eligible for immediate payment at the time of death, immediate pension equal to 50% of the pension which would have been payable to the member if he had retired on his date of death under normal form of payment. If former member was not eligible for immediate payment at the time of death, a pension commencing when former member would have been age 55 equal to 50% of the pension which would have been payable to the member if he had survived to age 55 and retired under normal form of payment.
FORM OF BENEFITS	
• Normal form of payment	Death and disability benefits are payable only as described above. Monthly pension benefits are paid in the form of a life annuity if the member has no spouse as of the date payments begin, or if the participant so elects. Otherwise, reduced benefits are paid under the 50% joint and survivor option.
• Optional forms of payment	Single life annuity. Joint and survivor annuity (100%, 75% and 50%). 120 or 240 months certain and life annuity. Lump sum payment in lieu of annuity (Tuscola and Port Arthur plants only).

Schedule SB, Part V — Summary of Plan Provisions

• Actuarial equivalence	See table of sample factors for a 100% joint & survivor annuity based on the spouse age difference assumptions: **Age** / **Male** / **Female** 55 / 0.8701 / 0.8989 60 / 0.8402 / 0.8786 65 / 0.8079 / 0.8576 See table of sample factors for a 75% joint & survivor annuity based on the spouse age difference assumptions: **Age** / **Male** / **Female** 55 / 0.8993 / 0.9222 60 / 0.8751 / 0.9061 65 / 0.8487 / 0.8892 See table of sample factors for a 50% joint & survivor annuity based on the spouse age difference assumptions: **Age** / **Male** / **Female** 55 / 0.9306 / 0.9467 60 / 0.9132 / 0.9353 65 / 0.8937 / 0.9233 See table of factors for the early commencement factor of payments to deferred vested employees: **Age** / **Male/Females** 62 / 0.692656 63 / 0.780773 64 / 0.882391 65 / 1.000000 For actual factors used see the plan document.
• Actuarial equivalence for lump sum	PPA mortality and interest rates equal to the average of the 3-tiered minimum present value segment rate for the third, fourth and fifth months immediately preceding the first day of the calendar quarter during which the lump sum payment occurs and reflecting the appropriate phase-ins.
MISCELLANEOUS	
• Maximum compensation	Compensation for any 12-month period used to determine accrued benefits may not exceed the limits in IRC Section 401(a)(17) for the calendar year in which the 12-month period begins. This limit is indexed annually. For 2018, the limit is $275,000.
• Maximum benefits	Annual benefits may not exceed the limits in IRC Section 415. This limit is indexed annually. For 2018, the limit is $220,000.

Schedule SB, Part V — Summary of Plan Provisions

Benefits Included or Excluded

Unless noted below, all benefits provided by the plan, as restated as of January 1, 2011 and amended through the Fourth Amendment to the Pension Plan for Eligible Hourly Represented Employees of Equistar Chemicals, LP executed on December 27, 2017 are included in this valuation:

- **Most recent plan amendments included:** The Fourth Amendment to the Pension Plan for Eligible Hourly Represented Employees of Equistar Chemicals, LP executed on December 27, 2017, is included because it was adopted before the valuation date and is effective by the end of the plan year.

- **Plan amendments excluded:** None.

- **Late retirement increases:**

  – *Active participants:* The plan provides late retirement increases to participants who work beyond normal retirement age. These increases are reflected in the valuation.

  – *Deferred vested participants:* Current deferred vested participants over normal retirement age are not valued including the late retirement actuarial increases. The Plan distributes benefits to all deferred vested participants upon attaining age 65; any participants that are unpaid after age 65 because they cannot be located are not significant.

- **Internal Revenue Code limitations:** The limitations of Internal Revenue Code Section 415(b) and 401(a)(17) have been incorporated into our calculations.

- **IRC Section 416 rules for top-heavy plans:** We did not test whether this plan is top-heavy (when the present value of benefits for key employees equals or exceeds 60% of the present value for all participants). However, we expect that the plan is not top-heavy due to the large number of rank-and-file participants; therefore, the funding target and target normal cost do not reflect any liability for top-heavy benefit accruals.

PLAN PROVISIONS

Additional Benefits Included or Excluded

- **IRC Section 436 benefit restrictions:**
  – *Unpredictable contingent event benefits:* This valuation excludes restricted contingent event benefits that occurred before the valuation date but includes contingent event benefits which are expected to occur on or after the valuation date regardless of anticipated funding-based limitations.

  – *Plan amendments:* See above.

Schedule SB, Part V — Summary of Plan Provisions

  - *Prohibited payments:* Limitations on prohibited benefits (if any) are reflected for annuity starting dates before the valuation date but are ignored for annuity starting dates on or after the valuation date.

  - *Benefit accruals:* The plan's funding target does not reflect any limitation on benefit accruals. The target normal cost does not reflect any limitation on benefit accruals.

- **Scheduled benefit increases:** Scheduled benefit increases effective after the end of the current plan year are excluded from minimum funding requirements.

- **Unpredictable contingent event benefits:** The plan does not have any unpredictable contingent event benefits.

PLAN PROVISION CHANGES SINCE PRIOR VALUATION

Maximum compensation amounts and maximum benefit amounts under IRS rules were updated from 2017 to 2018.

For funding, scheduled benefit increases effective since the prior valuation have been included

Schedule SB, line 32 — Schedule of Amortization Bases

The total shortfall amortization charge is the sum of the individual shortfall amortization installment for each plan year since the IRC Section 430 changes made by the Pension Protection Act of 2006 (PPA) took effect for the plan. Although an individual shortfall amortization installment can be negative, the combined shortfall amortization charge cannot be less than $0.

SHORTFALL BASES					
YEAR ESTABLISHED		OUTSTANDING BALANCE	YEARS REMAINING		2018 INSTALLMENT
2018	$	590,654	7	$	96,424
Total	$	590,654		$	96,424

Schedule SB, line 24 — Change in Actuarial Assumptions

- The expected investment return changed from 8.00% to 7.50%.