

0307 EST

CONOCO VCM

KANECEM J63582

NO.21 1/5

CONOCO

ATT: MR. J. A. DEPERNARDI
CONOCO VCM
LAKE CHARLES, LA

=== URGENT ===

FROM: H. MORI
MANAGER OF TECHNICAL DEVELOPMENT SECTION,
CHEMICALS AND PLASTICS DEPARTMENT,
KANEGAFUCHI, OSAKA, JAPAN

VERY SORRY, BUT AS WE HAD NEW YEAR HOLIDAYS,
WE RECEIVED YOUR TELEX TODAY.

RE: OXYCHLORINATION CATALYST FOR R-301
WE RECEIVED YOUR TLX OF DEC. 29, 1981 WITH THANKS.

OUR PROPOSAL OF SALE AND PURCHASE CONTRACT IS AS FOLLOWS:
IN RESPONSE TO YOUR PURCHASE ORDER OF OUR CATALYST
KANEGAFUCHI CHEMICAL INDUSTRY CO., LTD. AS SELLER HEREBY CONFIRMS
HAVING THIS DAY OF JANUARY, 1982 SOLD TO CONOCO INC. AS
PURCHASER THE FOLLOWING GOODS ON THE TERMS AND CONDITIONS AS
BELOW:

1. DESCRIPTION OF GOODS:
CATALYST : KOC-101
DILUENT : KOD-55

2. QUANTITIES
TO BE FIXED AGAIN AFTER CALCULATION ACCORDING TO YOUR
TLX OF DEC. 30, 1981.
AND INFORMED TO YOU.

3. PACKING:
(1) FOR KOC-101
NEW 200-LITER STEEL DRUMS OF 175-KG NET.
(2) FOR DILUENT KOD-55
NEW 200-LITER STEEL DRUMS OF 200-KG NET.

4. PRICES:
KOC-101 : 20.50 U.S.D./KG
KOD - 55 : 8.25 U.S.D./KG

THE ABOVE PRICES ARE BASED ON CIF PORT OF HOUSTON

5. TIME OF SHIPMENT:
DELIVERED AT YOKOHAMA PORT BY MARCH 07, 1982,
AND SHIPPED WITHIN ONE WEEK AT LATEST.

*CC: - Carlson
Convers
MWC*

CCR 000018177

CONOCO CHEMICALS
CONOCO INC.
P.O. BOX 605
WESTLAKE, LA 70669
U.S.A.

7. PAYMENT
L/C AT SITE

8. OTHER CONDITIONS.

A) SECRECY

CONOCO AGREE NEITHER TO DISCLOSE KANEGAFUCHI'S INFORMATION
ON THE SAID CATALYSTS AND DILUENT INCLUDING APPLICATION KNOW-HOW
NOR TO GIVE OUT THE SAID CATALYSTS AND DILUENT TO ANY THIRD PARTY
WITHOUT KANEGAFUCHI'S PRIOR WRITTEN CONSENT FOR FIVE (5) YEARS
AFTER THE EFFECTIVE DATE OF THE SAID SALE AND PURCHASE CONTRACT.

B) LICENSE CONSIDERATION

NO CONSIDERATION IS REQUIRED FOR LICENSE TO USE PARENT
RIGHTS AND TECHNICAL KNOW-HOW OWNED BY KANEGAFUCHI AS WELL
AS FOR LICENSE TO APPLY THE SAID CATALYSTS AND DILUENT TO
CONOCO'S COMMERCIAL AND TEST REACTORS.

C) PERFORMANCE

NO GUARANTEE IS GIVEN BY KANEGAFUCHI TO THE PERFORMANCE OF
THE SAID CATALYSTS AND DILUENT.

D) TECHNICAL ASSISTANCE

KANEGAFUCHI'S PERSONNEL WILL BE DISPATCHED TO CONOCO UPON
REQUEST FOR ASSISTING APPLICATION OF THE SAID CATALYSTS AND
DILUENT AT CONOCO'S EXPENSE OF ABSENCE FEE, TRAVEL FEE, AND
OTHER NECESSARYGES.

WE HOPE YOU TO ACCEPT OUR PROPOSED CONTRACT.

WITH BEST REGARDS

H.MORI
MARKET DEVELOPMENT SECT.,
CHEMICALS AND PLASTICS DEPT.,
KANEGAFUCHI, OSAKA, JAPAN

CORRECTION

D)
LINE 4

OTHER NECESSARY CHARGES.

CCR 000018178

CONOCO VCM

RCA GA

CONOCO VCM

JAN 04 1331 800976
FLS TYPE AREA CODE AND NBR
GA
78163582+
CONOCO VCM

JAN 04 1332 801005
KANECHM J63582

JANUARY 4, 1982

TO: H. MORI
MANAGER, TECHNICAL DEVELOPMENT
SECTION CHEMICALS AND PLASTICS
KANEGAFUCHI CHEMICAL IND. CO., LTD.

FROM: J. A. DEBERNARDI
CONOCO VCM PLANT
LAKE CHARLES, LA

DID YOU RECEIVE MY TELEX OF DECEMBER 30, 1981 RELATED TO
KANEGAFUCHI OXYCHLORINATION CATALYST?

J. A. DEBERNARDI
MANAGER, CONOCO VCM PLANT
LAKE CHARLES, LA
TWX#- 510-971-7572

CCR 000018179

KANECHM J63582.....
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GA

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ECA GA

CONOCO VCM

DEC 30 1447 650957
PLS TYPE AREA CODE AND VPR
GA
78163582+
CONOCO VCM

DEC 30 1447 650991
KANECHEN J63582
CONOCO VCM

DECEMBER 30, 1981

TO: W. MORE
MANAGER, TECHNICAL DEVELOPMENT SECTION
CHEMICALS AND PLASTICS
KANEGAFUCHI CHEMICAL IND. CO., LTD.

*CCR Conner
MWC
12/30/81*

FROM: J. A. DEFERNARDI
CONOCO VCM PLANT
LAKE CHARLES, LA

YOUR DECEMBER 25, 1981 TELEX INQUIRED AS TO WHAT THE ALLOWABLE STEAM DRUM (S-301) PRESSURE RANGE WAS IN OUR PLANT. THE S-301 STEAM DRUM IS DESIGNED FOR A MAXIMUM OPERATING PRESSURE OF 205 PSIG. STEAM PRODUCED IN THIS SYSTEM CAN BE VENTED TO OUR PLANT'S 150 PSIG STEAM HEADER OR TO OUR 250 PSIG STEAM HEADER. TO VENT TO THE 150 PSIG HEADER THE S-301 PRESSURE MUST BE APPROXIMATELY 250 PSIG. TO VENT TO THE 250 PSIG HEADER THE S-301 PRESSURE MUST BE APPROXIMATELY 260 PSIG.

OUR PLANT STEAM BALANCE CAN BE AFFECTED DEPENDING ON WHAT STEAM HEADER THE S-301 STEAM PRODUCTION IS VENTED INTO. THEREFORE, WE WOULD PREFER TO HAVE THE S-301 CATALYST CHARGE PATTERN GIVE US THE FLEXIBILITY TO VENT INTO EITHER THE 150 PSIG OR 250 PSIG STEAM HEADERS. HOWEVER, IF THE CHARGE PATTERN FOR S-301 MUST BE ALTERED FROM THE PATTERN USED BY KANEGAFUCHI DURING THE OPERATING RUN WHICH YIELDED THE DATA PRESENTED TO CONOCO AT OUR OCTOBER, 1981 MEETING, WE WOULD REQUEST THAT THE DIFFERENCES IN CHARGE PATTERN BE MADE KNOWN TO CONOCO.

CCR 000018180

YOUR UNDERSTANDING RELATED TO THE "TOP OF THE TUBE SHEET" QUESTION IN MY TELEX OF DECEMBER 21, 1981, ITEM 3 IS NOT CORRECT. I AM REFERRING TO THE SURFACE AREA ON TOP OF THE TUBE SHEET, NOT IN THE TUBES. AT PRESENT OUR CHARGING PROCEDURE INCLUDES A LAYER APPROXIMATELY 2 INCHES DEEP OF INERT MATERIAL (TECO-SIL, DENSTONE, ETC.) BE PLACED ON TOP OF THE INLET TUBE SHEET AFTER ALL TUBES ARE PACKED. DOES KANEGAFUCHI USE THIS PROCEDURE? IF SO IS KID-55

DILUENT QUANTITIES FOR R-301 IT IS APPARENT YOU NEED ADDITIONAL
INFORMATION ON OUR SYSTEM AND PRESENT CHARGE PATTERN.

NUMBER OF REACTOR TUBES - 5,820
TUBE INSIDE DIAMETER - 2.565 CM
TUBE CATALYST PACKED LENGTH - 304.75 CM

CHARGE PATTERN: (MEASURED FROM OUTLET FACE OF REACTOR OUTLET
TUBE SHEET)

17.75 CM - 1.25 CM PORCELAIN PASCHIG RINGS
304.75 CM - TUBE LENGTH OF CATALYST ZONE
43.50 CM - INERT MATERIAL (TECO SIL, DEWSTONE, ETC.)

366.0 CM - TOTAL TUBE LENGTH

5 CM - INERT MATERIAL ON TOP OF INLET FACE OF REACTOR
INLET TUBE SHEET.

WE DO NOT FOLLOW A PROCEDURE OF PUTTING CATALYST INTO THE PORTION
OF THE TUBES THAT ARE INSIDE THE REACTOR TUBE SHEETS. WE MAINTAIN
A BUFFER LAYER ON THE INLET OF EACH TUBE TO PREVENT REACTION UNTIL
WE ARE ASSURED THE TUBE IS IN CONTACT WITH COOLANT ON THE SHELL
SIDE OF THE REACTOR.

THIS INFORMATION ALONG WITH THE ANSWER TO THE "TOP OF THE TUBE
SHEET" QUESTION SHOULD ALTER YOUR CALCULATED QUANTITIES OF
MATERIAL NEEDED.

J. A. DEFFERNARDI
MANAGER, CONOCO UCM PLANT
LAKE CHARLES, LA
TWX# - 510-971-7572
12/30/81

KANECHFM J63582.....
0008.7

CCR 000018181)

GA

Jim DeBernardi

CON C

$$\left[\begin{array}{l} \text{cm} \times .3937 = \text{inches} \\ \text{ft}^3 \times .02832 = \text{m}^3 \end{array} \right]$$

To

R-301

Date

11/20 = .120 "val"

Tube I.D.:- 2.565 cm. (1 1/4" O.D. x 11/16" = 1.01" I.D.)

Cat. Packed length:- 304.8 cm (120" - actual 118")

No. of Tubes:- 5820

Inert Zone:- 48.26 cm (19")

Vol. Reaction Zone

$$\frac{(2.565)^2 (3.1416)}{4} \text{ cm}^2 \times 304.8 \text{ cm} \times 5820 \text{ Tubes} \times 10^{-6} = 9.17 \text{ m}^3$$

Average loading ratios

$$\text{KOL-101:- } 79.0 \text{ vol. \%} = 7.25 \text{ m}^3$$

$$\text{KOD-55:- } 21.0 \text{ vol. \%} = \frac{1.92 \text{ m}^3}{9.17 \text{ m}^3}$$

Catalyst required

$$7.25 \text{ m}^3 \times 780 \frac{\text{Kg}}{\text{m}^3} = 5655 \text{ Kg} \times 1.1 = 6220.5 \text{ Kg.}$$

$$\frac{6220.5 \text{ Kg.}}{175 \text{ Kg/drum}} = 35.55 \text{ drums} = \boxed{36 \text{ drums}}$$

Diluent Required for Cat. Zone

$$1.92 \text{ m}^3 \times 1050 \frac{\text{Kg}}{\text{m}^3} = 2016 \text{ Kg} \times 1.1 = 2217.6 \text{ Kg.}$$

Diluent Required for Inert Top Zone in Tubes

CCR 000018182

$$\frac{(2.565)^2 (3.1416)}{4} \text{ cm}^2 \times 48.26 \text{ cm} \times 5820 \text{ Tubes} \times 10^{-6} = 1.45 \text{ m}^3$$

$$1.45 \text{ m}^3 \times 1050 \frac{\text{Kg}}{\text{m}^3} = 1522.5 \text{ Kg} \times 1.1 = 1674.8 \text{ Kg.}$$

Jim DeBernardi



To

Date

Diluent on top of Tube sheet

Vol. on top of tube sheet to 2" depth = 20.15 ft^3

$$20.15 \text{ ft}^3 \times .02832 \frac{\text{m}^3}{\text{ft}^3} = 0.57 \text{ m}^3$$

$$0.57 \text{ m}^3 \times 1050 \frac{\text{kg}}{\text{m}^3} = 598.5 \text{ Kg.}$$

Total Diluent

2217.6 Kg. (cat. zone + 10% extra)

1674.8 Kg. (Top Tube Inert Zone + 10% extra)

598.5 Kg. (On top of Tube sheet 2" depth)

4490.9 Kg.

$$\frac{4490.9 \text{ Kg.}}{200 \text{ Kg/drum}} = 22.45 \text{ drums} = \boxed{23 \text{ drums}}$$

Cost

$$\text{KOC-101} - 36 \frac{\text{drums}}{\text{hr}} \times 175 \frac{\text{Kg}}{\text{drum}} \times 20.5 \frac{\text{kg}}{\text{Kg}} = \$129,150$$

$$\text{KOD-55} - 23 \times 200 \times 8.25 \frac{\text{kg}}{\text{Kg}} = \$37,950$$

\$167,100