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5490
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J. C. Wroblewski
Engineering Central Files

MONSANTO CHEMICAL COMPANY

Texas City, Texas

MINUTES OF DEPTS. 21, 22 & 23 COORDINATING COMMITTEE MEETING

Number 62

August 10, 1956

Present:

A. S. Krisher
C. T. Massey
G. T. Ryan

A. E. Withrow
G. L. Wofford
W. F. Yates

Corrosion of 23T8

Samples of the vapor and liquid from this tank have been taken and analyzed by Research, and the results reported in a memo, G. L. Wofford to C. L. Gilmore, dated July 27, 1956. No chlorine or HCl was detected in the vapor sample (<1 ppm), and based on hydrogen ion measurements of water extracts of the liquid sample, there was 0.2 ppm HCl. It is not felt that this would be enough acid to cause the corrosion being experienced. It was pointed out in the meeting that neutralization of free chlorine with caustic gives equal molar amounts of ordinary salt and sodium hypochlorite, the common ingredient of household bleaches. This material is believed to break down and release free oxygen, and there is a possibility that this might be occurring in the 23T8 tank. Samples of the caustic scrub phase in Department 23 are to be analyzed for hypochlorite. If required, Research will assist in this analytical work.

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The Corrosion inspection team is scheduled to visit Ethyl Corporation on about August 20 and inspect their EDC storage tank. It is planned that audio-gauge readings will be taken on their tank, as well as visual inspection. If possible, samples of the liquid will also be taken for analysis. It is also planned that if Ethyl agrees we will examine their process flow to see if their treatment of EDC differs from the Department 23 process. The members of the inspection team are A. S. Krisher and J. W. Kongable.

Engineering has two jobs scheduled in connection with the 23T8. One job, which is of long standing, has to do with elimination of the explosive mixture - EDC air - in the vapor phase of the tank. Some preliminary work has been done on this job. The second job, dealing specifically with corrosion prevention in 23T8, will not be scheduled until the results from the Ethyl inspection team are in. The Corrosion group plans to test various conditions and materials in contact with EDC in the lab.

This problem of corrosion in EDC storage tanks has taken on added importance due to the corrosion in leased storage tanks, namely the Sid Richardson tank and the Republic tank. Corrosion reported that a test coupon taken from the Sid Richardson tank showed a corrosion rate similar to that experienced in the 23T8 tank (memo A. S. Krisher to C. L. Gilmore, dated July 23, 1956). We have just started using the Republic tank.

Inventory by Sphere Gauging

Early in July the agreement was fair, 10% or less difference, between sphere gauge readings and tank car-rundown tank balances. At the end of the month the agreement was very poor, greater than 20% difference. The work on checking the sphere gauging instruments is to be continued. It is important for operations to have a measure of the sphere liquid level in order to avoid overfilling.

VCM Flare Repairs

The two flame arresters have been replaced, and the upper Y-section has been replaced. The lower Y-section which supports the two flame arresters appears to be in good shape except for some localized spots. If possible, maintenance will try to reinforce this bottom Y. A protective coating will be applied to the repaired flare. It was suggested that the condition of the flame arresters and the upper part of the flare be checked again in about six months.

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VCM Flare Misting

On July 20 between 6:00 and 9:30 a. m., a large amount of HCl was blown out of the VCM flare and a large number of cars had paint damage due to the resulting acid mist. It is estimated that the cost for repainting these cars will be \$30,000-\$40,000.

In the original plant design spills of this sort were avoided by passing the Department 22 reactor off-gas through a series of caustic and water scrubbers which neutralized the acid. These scrubbers had been bypassed for the last seventeen months for economic reasons so that the HCl, during times of operating upsets, can go directly to the flare. During the time that the scrubbers have been bypassed and when the flare was in good repair and burning, there was no acid mist whenever HCl was vented to the flare.

The Research representative at the meeting expressed the opinion that keeping the flare burning will prevent the acid mist in times of upsets, the reasoning behind this being that the heat dissipates the acid fumes so widely that they do not have a tendency to coalesce into mist droplets. It was felt by Research that calculations could be done to decide how effective the burning would be in dissipating acid mists. Engineering will attempt to calculate the effectiveness of a burning flare in dispersing HCl fumes. Engineering shall also examine modifications and equipment additions which would eliminate flare misting.

Dilatometer for Poly Rate Analysis

The planned experiment using a cylinder of VCM is being run as scheduled. No dilatometer samples are being run for Department 22.

Chlorine Yield in Department 23

Contrary to expectations at the time of the last meeting, the chlorine yield in July was 97%, which is an increase over the May yield which was 95%. The reason for expecting the low yields in July was because the chlorine meters to the EDC crackers were not operating satisfactorily. Apparently, though, operations were such that the yields were not lowered.

VCM Capacity

A project meeting on increased VCM capacity was held on July 24 and 25. The main area of future action centered around the possibility of sales of

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additional AN, which would rob the VCM area of acetylene. This would require that production of VCM from EDC cracking be increased beyond present capacity. It was agreed in the project meeting that a new engineering job will be established to handle the design of VCM cracking facilities in case the AN sales picture changes in the very near future. The scheduling of this work in the Engineering Department will be done as soon as possible, and all parties concerned will be notified of the schedule.

Test Run for Ethyl Corporation

Some analytical results have been received from Ethyl, and a joint discussion with Ethyl representatives is being scheduled for the near future, probably before the next committee meeting. Those interested in attending this discussion will be notified.

VCM Test Reactor

The current research work is largely concerned with analyzing for acetylene impurities removed by the carbon bed absorber which is ahead of the VCM test reactor. The results of this work are in the monthly Research Progress Report. A progress report giving the Production results has been issued (J. W. Kongable to C. L. Gilmore, July 10, 1956). Also, the results of a statistical study of the VCM plant reactor data have been issued by the Production Coordination group (A. N. Heyman to G. T. Ryan, August 10, 1956).

A. E. Withrow

A. E. Withrow

AEW:gb
8/21/56

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