

INTER-OFFICE MEMO **TENNECO CHEMICALS, INC.**

TO G.W. Leach AT Burlington DATE March 28, 1972
FROM F.W. Kanzler AT Burlington COPY TO H.B. Carr
E.J. Hourihan
SUBJECT Evaluation of Antifoam ☒ File
Reference: Memo to G.W. Leach
from F.W. Kanzler,
dated 2/18/72

As requested, tributyl phosphate (TBP) and tributoxy ethyl phosphate (TBEP) were evaluated as antifoam agents and their effectiveness as such in latex. The results listed in Tables I and II (attached) were obtained as follows:

A peristaltic pump with a flow rate of about 2 liters/minute was used to recycle the latex. The foam rise rate with this pump was found to be 4 inches after 11 minutes with no increase of the foam level observed up to 20 minutes of recycle. The evaluation listed in Table I was accomplished by allowing the formation of 4 inches of foam with 5 liters of latex and subsequent addition of the antifoams in the amounts listed. Table II data was obtained by the addition of 250 ml of the antifoam mix to 5 liters of latex prior to the start of the recycle. Maximum foam build-up is listed in "recycle foam build-up" given the time when no further increase in the foam level was observed. In addition, an evaluation of both antifoams was made via allowing the latex-antifoam mix to sit for 5 minutes after the initial foam build-up evaluation and subsequent resumption of the recycle.

The data listed in Table I indicates that while good foam break characteristics are given for both the TBP and TBEP, the TBP exhibits better foam retarding properties. The "still pond" method of addition (addition of the antifoam to the latex prior to agitation-recycle) shows that the TBP has better foam breaking capabilities than the TBEP. It is suspected that this phenomena is mainly due to the fact that the TBP has a lighter specific gravity and floats on top of water than the TBEP which settles to the bottom of a vessel containing water.

In addition to the above, the 2 defoamers were evaluated by the still pond method using 5 liters of 1% solution of sodium lauryl sulfate in water. The TBP showed the formation of a foam layer almost immediately after the start of the recycle which amounted to 1/4 inch. The same evaluation of TBEP yielded a foam level of 1/2 inch. Both antifoam-emulsifier-water mixes were recycled for 40 minutes without any increase in foam thickness.

F.W. Kanzler
F.W. Kanzler

Attachments (2).

FWK/jt

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