CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2010
DateRun:	06/17/2010
Experimenters:	Jason Marshall
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Liquid
PartType:	Coupon
Contaminants:	Oil
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Visual
Purpose:	Evaluating the oil separation ability of aqueous degreasers for GS 34 standard.

Experimental Procedure:

A 15:1 dilution of the degreasing agent was made. A 720 mL solution was needed. The product was diluted according to the manufacturer's instructions with distilled/deionized water and to this volume 80 mL Hypoid SAE 140 Gear Oil (or comparable oil – East Falls Corp Hydraulic oil 8-46 –cas# 64741-88-4) was added.

The oil/cleaner separation was performed at the temperature suggested by the degreaser supplier for best separation performance.

The diluted aqueous degreaser solution was added to a volumetric cylinder. To this 720 mL, 80 mL of the oil added. The initial total height of the liquids in the cylinder was measured (A = initial height). It should be close to 16 cm. The mixture was stirred for 30 minutes with a magnetic stirrer at the highest setting that did not result in any of the mixture spilling from the container.

Upon completion of the 30-minute stirring time, the stirrer was turned off. The mixture was allowed to sit for 20 minutes allowing the liquid mixture to separate. As the mixture sits, three phases will form. The top phase will be the oil, the middle phase will be the dispersed phase, which consists of both the oil and the cleaning solution, and the bottom phase will consist only of the cleaning solution and water. After the 20 minutes has elapsed, measure the height of the dispersed, or middle, phase (B = final height).

The separation ability was calculated using the following formula: [(A-B)/A]100 = percent separation. If the percent separation exceeds 95% in two out of three tests, the degreaser meets the performance standard for separation.

Results:

The Calsoft L40 mixture was successful in the oil separation, achieving in excess of 95% as shown in the table below.

Trial	Initial Height A	Height of Dispersed phase	Separation Ability
1	17.9	0.4	[(17.9-0.4)/ 17.9]*100 = 97.8
2	17.5	0.3	[(17.5-0.3)/ 17.5]*100 = 98.3

Summary:

Conclusion:

The Calsoft L40 mixture was successful in the oil separation surpassing the 95% separation as required by GS 34.