

HTCBT INFORMATION LETTER 02-1 Sequence No. 3

November 1, 2002

ASTM consensus has not been obtained on this information letter. An appropriate ASTM ballot will be issued in order to achieve such consensus.

TO: CBT Mailing List

SUBJECT:1. Precision Estimates2. Report Forms and Data Dictionary

As approved by the Corrosion Bench Test Surveillance Panel, the following are changes to Test Method D 6594

1. The precision values for  $\Delta$  Copper and  $\Delta$  Lead have been updated. Section 13.1, revised in its entirety, is attached. Also attached is Table 1, which is a new addition to the test method.

2. The HTCBT Report Forms and Data Dictionary have been removed from Test Method D 6594. The TMC will continue to maintain and revise the HTCBT Report Forms and Data Dictionary as done in the past. The current report forms and data dictionary can be downloaded from the ASTM Test Monitoring Center Web Page at http://www.astmtmc.cmu.edu/ or can be obtained in hardcopy format from the TMC. Section 11.1.4.1 and Annex A2 have been modified accordingly and are attached.

Jerry Wang

Jerry Wang Chairman CBT Surveillance Panel

Attachment

John Z. Jalar

John L. Zalar Administrator ASTM Test Monitoring Center

c: ftp://ftp.astmtmc.cmu.edu/docs/bench/htcbt/procedure and ils/htcbtil02-1.pdf

Distribution: Email

#### (Revises Test Method D 6594-00)

11.1.4.1 Use the data reporting formats detailed in Annex A2 for reporting all TMC reference oil test data to the TMC. Report only the reference oil results to the TMC. Do not include any non-reference test data. Complete all of the required blank fields on the forms. The report forms and data dictionary are available on the ASTM Test Monitoring Center Web Page at http://www.astmtmc.cmu.edu/ or can be obtained in hardcopy format from the TMC.

# 13. Precision and Bias

# 13.1 Test Precision—Reference Oils

13.1.1 *Intermediate Precision (formerly called repeatability) conditions*—conditions where test results are obtained with the same test method using the same test oil, with changing conditions such as operators, measuring equipment, test stands, test engines, and time.

13.1.1.1 *Intermediate Precision limit (i.p.)*--the difference between two results obtained under intermediate precision conditions that would, in the long run, in the normal and correct conduct of the test method, exceed the values shown in Table 1 in only one case in twenty.

13.1.2 *Reproducibility conditions*—conditions where test results are obtained with the same test method using the same test oil in different laboratories with different operators using different equipment.

13.1.2.1 *Reproducibility limit (R)*—the difference between results obtained under reproducibility conditions that would, in the long run, in the normal and correct conduct of the test method, exceed the values in Table 1 in only one case in twenty.

	Intermediate Precision		Reproducibility	
Variable, Merits	S <sub>i.p.</sub>	i.p.	S <sub>R</sub>	R
$\Delta$ Copper, ppm (with natural log transformation)	0.318	0.890	0.349	0.977
$\Delta$ Lead, ppm	15.54	43.51	17.16	48.05

# Table 1 Reference Oil Statistics<sup>A</sup>

S<sub>i.p.</sub> – intermediate precision standard deviation

i.p. - intermediate precision limit<sup>B</sup>

 $S_{R}$  – reproducibility standard deviation

R – reproducibility limit<sup>B</sup>

<sup>A</sup> These statistics are based on results obtained on Test Monitoring Center Reference Oils 42 and 1005. <sup>B</sup> This value is obtained by multiplying the standard deviation by 2.8.

### A2. REPORT FORMAT AND DATA DICTIONARY

The required report forms and data dictionary are available on the ASTM Test Monitoring Center Web Page at http://www.astmtmc.cmu.edu/ or can be obtained in hardcopy format from the TMC.

Fig. A2.1 Final Report Cover Sheet Fig. A2.2 Summary of Test Results Fig. A2.3 Comments Fig. A2.4 Data Dictionary

### Delete Figures A2.1 through A2.4