



ASTM INTERNATIONAL
Helping our world work better

ASTM STANDARDS ADDRESSING METALWORKING FLUID HEALTH AND SAFETY ISSUES

**Frederick J. Passman, PhD, CMFS, FASTM,
FSTLE**

**Biodeterioration Control Associates, Inc.
Princeton NJ 08543**

www.biodeterioration-control.com

**Chair ASTM E34.50 on Health and Safety
Standards for Metal Working Fluids**

www.astm.org

BCA, Inc.
MICROBIAL CONTAMINATION CONTROL SERVICES

Helping Our World Work Better



12,700 ASTM standards operate globally

Applied to just about everything from steel to sustainability

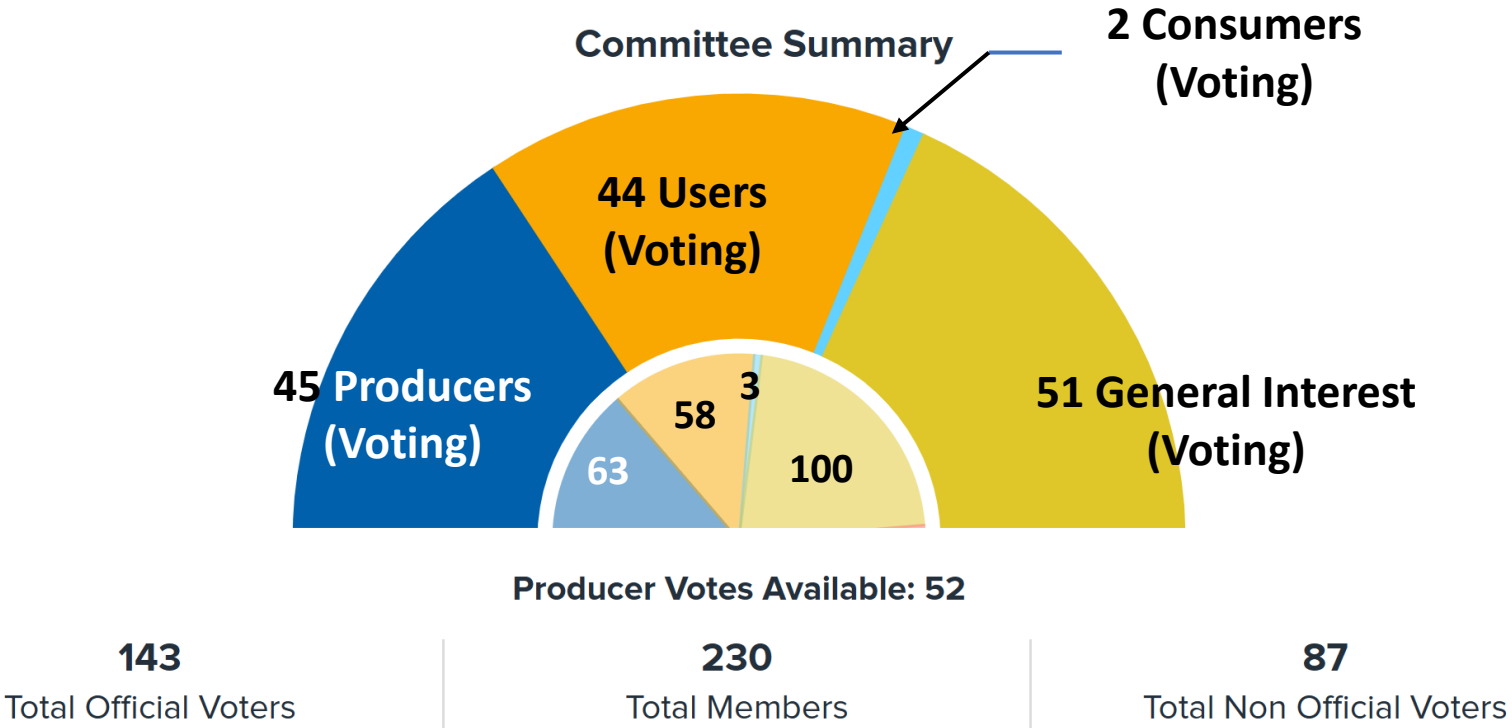
They improve the lives of millions every day

Committee E34 Overview

Quick Facts

Outer Circle – Official Voting Members

Inner Circle - Total



Committee E34 Overview

Quick Facts



E34 Standards

Vol 11.03

26 Standards

13 Practices

9 Guides

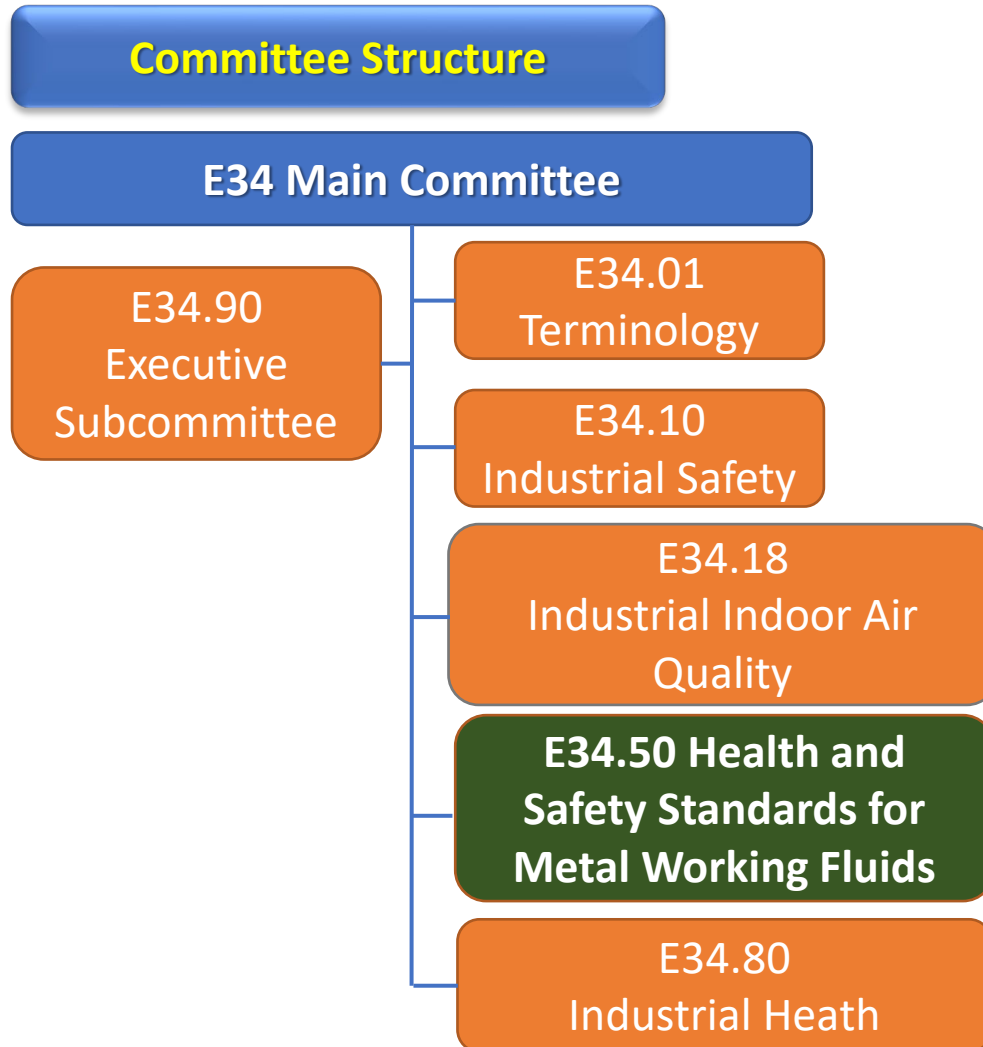
2 Test Methods

2 Terminology

Committee E34 Overview



Committee Structure



Six Subcommittees

Committee Leadership

E34 Chair – Fred Passman

E34 Vice Chair – Fred Kohloff

E34 Recording Secretary – Heidi Carr

E34.50 Sub-chair – Fred Passman

E34.50 Recording Secretary – Heidi Carr

ASTM E34.50 Overview



**Chartered
1984**

**Scope
Establish Standards
Related To
Health and Safety of
Metalworking Fluids**

ASTM E34.50 Overview – Chartered 1984



E34.50 Standards

Vol 11.03

15 Active Standards

8 Practices

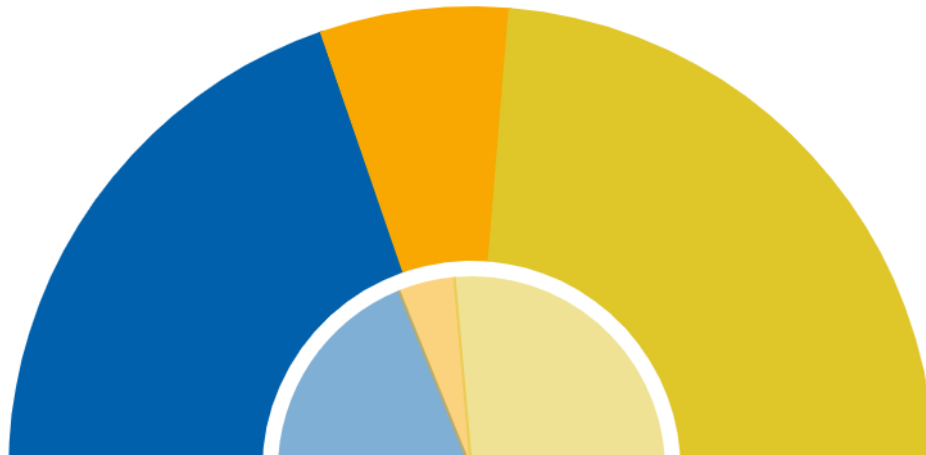
3 Guides

3 Test Methods

1 Terminologies

3 Proposed Standards

Committee Summary



- Producers
- Users
- General Interest

Producer Votes Available: 8

38
Total Official
Voters

53
Total Members

15
Total Non Official
Voters

ASTM E34.50 Standards

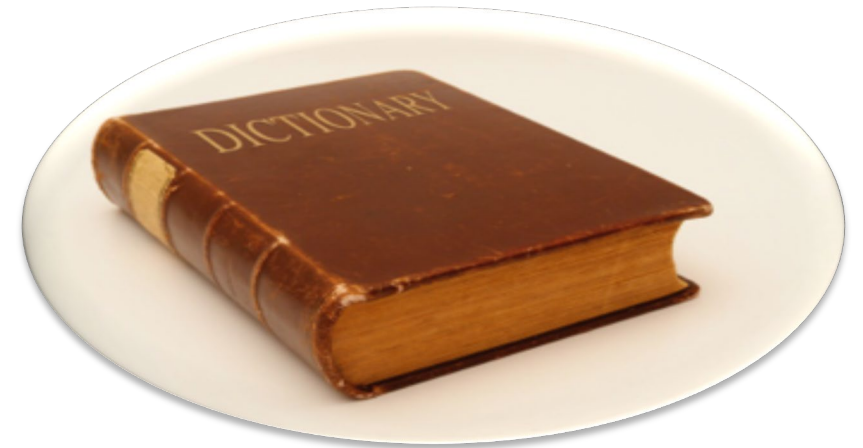
1 Terminology



Designation: E2523 – 13 (Reapproved 2018)

Standard Terminology for
Metalworking Fluids and Operations¹

- Terms from each standard's terminology section
- A few additional relevant definitions
 - MWF Types (from Classification D2881)
 - MW Operations (forming, grinding, etc.)



ASTM E34.50 Standards

Guides



Designation: E1302 – 23

**Standard Guide for
Acute Animal Toxicity Testing of Water-Miscible
Metalworking Fluids¹**



ASTM E34.50 Standards

Guides



Designation: E2148 – 21

**Standard Guide for
Using Documents Related to Metalworking or Metal
Removal Fluid Health and Safety¹**



ASTM E34.50 Standards

Guides



Designation: E3265 – 21

Standard Guide for
Evaluating Water-Miscible Metalworking Fluid Foaming
Tendency¹

~~ASTM INTERNATIONAL
Designation: D3519 – 88 (Reapproved 2007)
Standard Test Method for
Foam in Aqueous Media (Blender Test)¹~~



~~ASTM INTERNATIONAL
Designation: D3601 – 88 (Reapproved 2007)
Standard Test Method for
Foam in Aqueous Media (Bottle Test)¹~~



ASTM E34.50 Standards

Practices



Designation: E1497 – 23

**Standard Practice for
Selection and Safe Use of Water-Miscible and Straight Oil
Metal Removal Fluids¹**



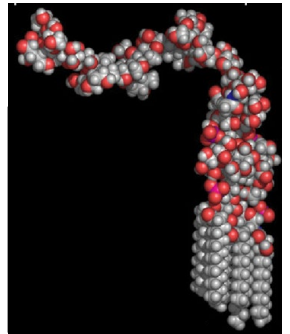
ASTM E34.50 Standards

Practices



Designation: E2144 – 21

**Standard Practice for
Personal Sampling and Analysis of Endotoxin in
Metalworking Fluid Aerosols in Workplace Atmospheres¹**



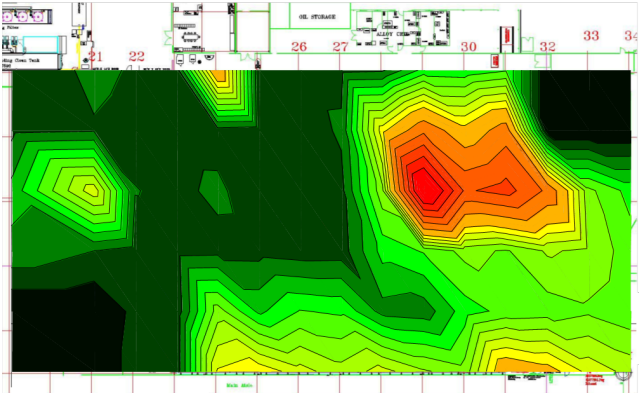
ASTM E34.50 Standards

Practices



Designation: E2889 – 12 (Reapproved 2017)

Standard Practice for
Control of Respiratory Hazards in the Metal Removal Fluid
Environment¹



ASTM E34.50 Standards

Practices

Purpose

The power of purpose.



Use-strategies



Selection Process



Designation: E2169 – 22

Standard Practice for
Selecting Antimicrobial Pesticides for Use in Water-Miscible
Metalworking Fluids¹

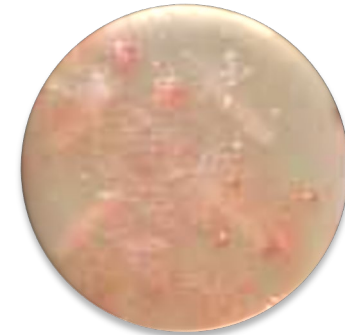
ASTM E34.50 Standards

Practices



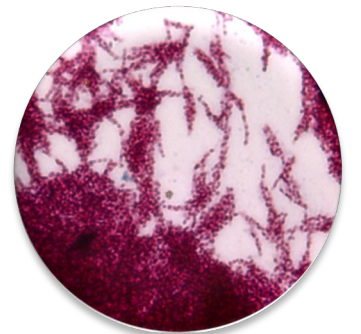
Designation: E2563 – 18

Standard Practice for
Enumeration of Non-Tuberculosis *Mycobacteria* in Aqueous
Metalworking Fluids by Plate Count Method¹



Designation: E2564 – 18

Standard Practice for
Enumeration of *Mycobacteria* in Metalworking Fluids by
Direct Microscopic Counting (DMC) Method¹



ASTM E34.50 Standards

Practices



Designation: E2657 – 21

**Standard Practice for
Determination of Endotoxin Concentrations in Water-
Miscible Metalworking Fluids¹**



ASTM E34.50 Standards

Practices



Designation: E2693 – 19

**Standard Practice for
Prevention of Dermatitis in the Wet Metal Removal Fluid
Environment¹**



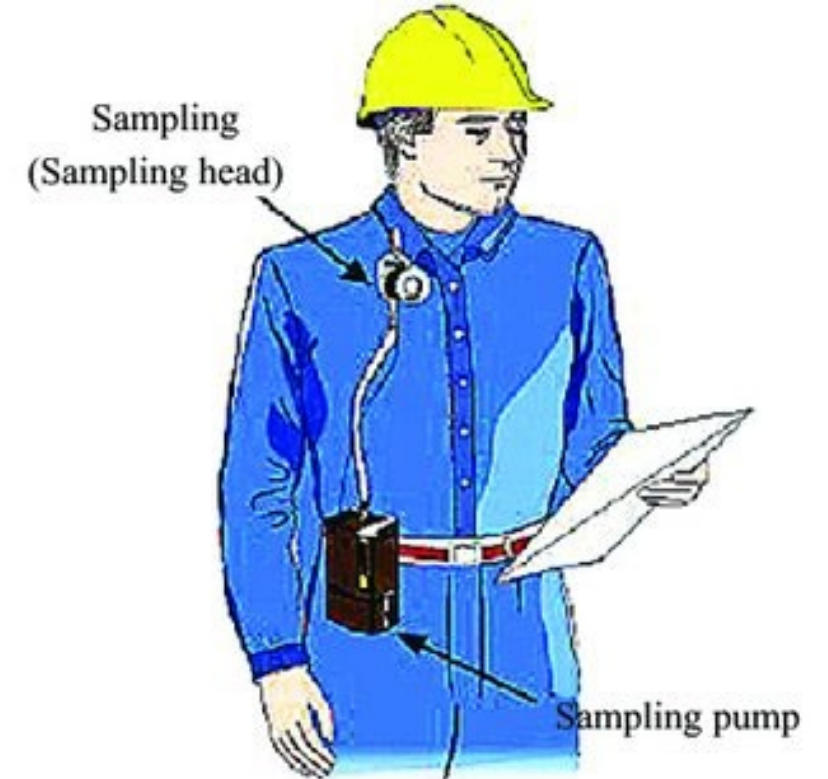
ASTM E34.50 Standards

Test Methods



Designation: D7049 - 17

**Standard Test Method for
Metalworking Fluid Aerosol in Workplace
Atmospheres¹**



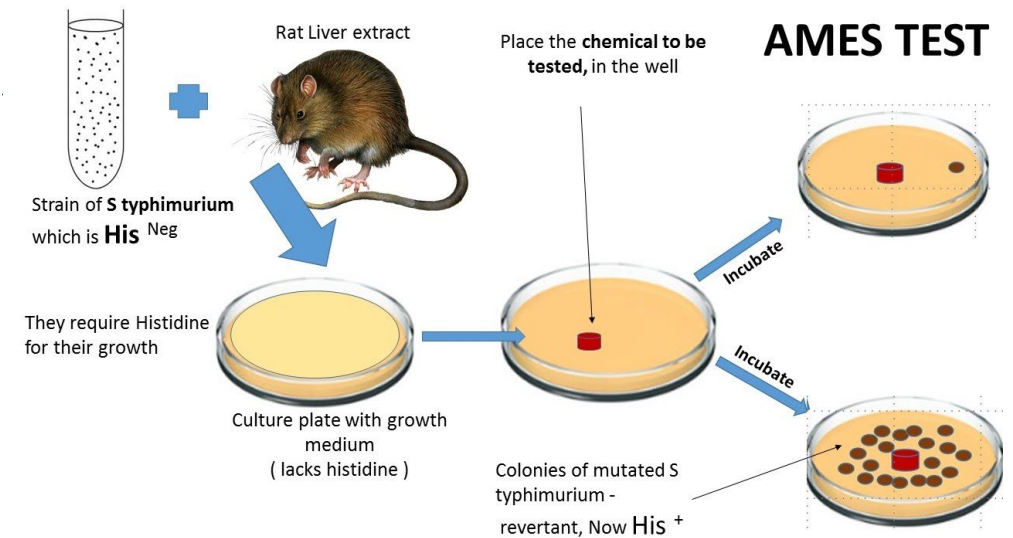
ASTM E34.50 Standards

Test Methods



Designation: E1687 – 19

Standard Test Method for Determining Carcinogenic Potential of Virgin Base Oils in Metalworking Fluids¹



ASTM E34.50 Standards

Test Methods



Designation: E2694 – 21

Standard Test Method for Measurement of Adenosine Triphosphate in Water-Miscible Metalworking Fluids¹



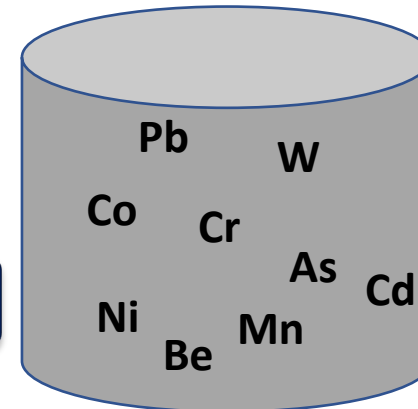
ASTM E34.50 Standards

Proposed Standards

Work Item 68411

Proposed Standard Guide for Minimizing Heavy Metal Accumulation in Metalworking Fluids

- Heavy metal toxicity profiles
- Heavy metal test method summaries
- Heavy metal exposure reduction practices



ASTM E34.50 Standards

Proposed Standards

Work Item 80871

**Standard Practice for Evaluating Water-Miscible
Metalworking Fluid Foaming Tendency by
Recirculation Testing**

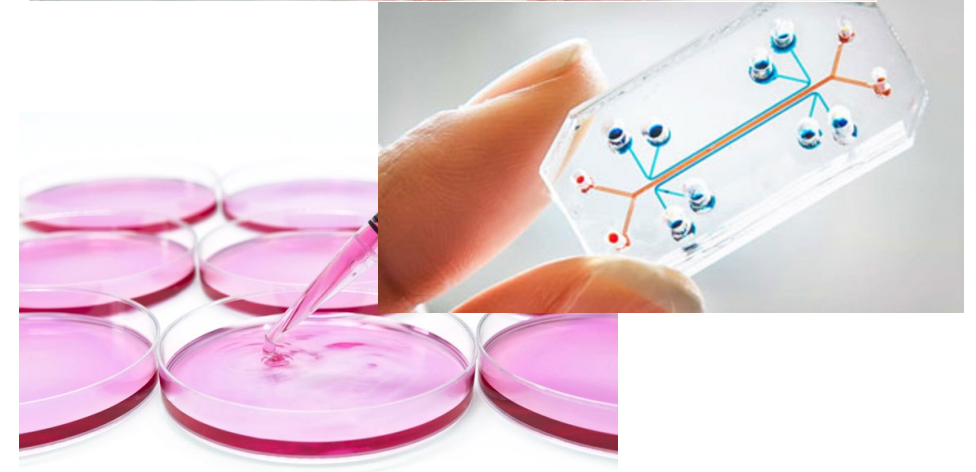


ASTM E34.50 Standards

Proposed Standards

Work Item 86561

Standard Guide for Non-Animal Acute Toxicity Testing of Water-Dilutable Metalworking Fluids



ASTM E34.50 Standards





ASTM E34.50 Standards

Attend!

E34.50 Meeting

Thursday
23 May 24

STLE Annual Meeting
Minneapolis, MN



ASTM E34.50

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