Marine Field Service

MEMORANDUM

TO: ALL NFPA CERTIFICATED MARINE CHEMISTS AND TRAINEES

FROM: LAWRENCE B. RUSSELL, PRINCIPAL SPECIALIST

DATE: 27 JUNE 2025

SUBJECT: U.S. COAST GUARD POLICY re. BENZENE TLV

All Certificated Marine Chemists and Trainees:

On 25 June 2025, the United States Coast Guard released a bulletin to all U.S. Coast Guard Personnel - *ALCOAST 287/25 - SUBJ: Changes in Threshold Limit Value-Time Weighted Average (TLV-TWA) and Elimination of the Threshold Limit Value-Short Term Exposure Limit For Benzene* (see the attachment to this memorandum). Please be guided by the following:

This U.S. Coast Guard notice regarding the January 2024 change to the Threshold Limit Value (TLV) for benzene by the American Conference of Governmental Industrial Hygienists (ACGIH) is effective immediately for Coast Guard marine safety personnel regarding confined space entry.

Summary of key changes:

1. Marine Chemists clearing spaces will verify the previous three cargoes for the presence of benzene,

2. Specifically sample for benzene using instrumentation sufficient to detect benzene concentrations at the revised threshold, and

3. Report those values on the Marine Chemist's Certificate posted.

Coast Guard personnel are not authorized to enter a confined space that has previously carried benzene or any space that previously carried or may contain benzene (including tank vessel pump rooms), or confined spaces immediately adjacent to spaces that carried or may contain benzene without a Marine Chemist's Certificate **that specifically states the detected benzene concentration is below the 0.02 ppm threshold.**

Coast Guard personnel may enter confined spaces initially certified by a Marine Chemist and then maintained by a Shipyard Competent Person (SCP) **only if:**

1. The shipyard's Health and Safety Program has been evaluated and found to be satisfactory, **and**

2. The SCP's **equipment is capable of testing for the same thresholds** and appropriately calibrated.

The U.S. Coast Guard has requested that all Marine Chemists are made aware of this change to USCG policy concerning the health and safety of its personnel.

In addition, the U.S. Coast Guard requests that all shipyard competent persons are made aware of this policy for protecting USCG Marine Inspectors from exposure to a concentration of benzene that is at, or above the ACGIH TLV. Therefore, you should notify your customers accordingly.

To comply with this USCG policy concerning benzene exposure you will need to have atmosphere test equipment that is capable of detecting benzene below 0.02 ppm. Your customers will also need to have this equipment to maintain the Marine Chemist's certificate that is posted on the vessel.

If you have any questions or need further clarification, feel free to contact me directly by telephone: 617-984-7499, or by email: lrussell@nfpa.org.

Thank you.

Distribution:

All Marine Chemists
All Marine Chemist Emeritus
All Marine Chemist Trainees
MCQB

Attachment: ALCOAST 287/25 - SUBJ: Changes in Threshold Limit Value-Time Weighted Average (TLV-TWA) and Elimination of the Threshold Limit Value-Short Term Exposure Limit For Benzene, 25 June 2025.

R 261820Z JUN 25 MID120002037757U
FM COMDT COGARD WASHINGTON DC
TO ALCOAST
BT
UNCLAS
ALCOAST 287/25
SSIC 6230
SUBJ: CHANGES IN THRESHOLD LIMIT VALUE-TIME WEIGHTED AVERAGE (TLV-TWA) AND ELIMINATION OF THE THRESHOLD LIMIT VALUE-SHORT TERM EXPOSURE LIMIT FOR BENZENE
A. Threshold Limit Values (TLVS) and Biological Exposure Indices (BEIS), ACGIH, NOTAL
B. Occupational Medicine Manual, COMDTINST 6260.32
C. Safety and Environmental Health Manual, COMDTINST 5100.47D
D. Aeronautical Engineering Maintenance Management Process Guide, CGTO PG-85-00-110-A
E. Marine Safety Manual, Volume I, Administration and Management, COMDTINST 16000.6
F. MEMO DTD 07 APR 2025- "Documentation of Test Result for Airborne Concentration of Benzene on the Marine Chemist's Certificate for Spaces to be Entered BY USCG Personnel"
1. This ALCOAST reflects changes to benzene threshold limit values (TLV) and short-term exposure limits (STEL) exposure standards applicable to all personnel, in accordance with REF (A).
2. Benzene is a carcinogenic chemical found in many fuels. Modifications to existing safe work practices are required to protect personnel who encounter benzene in the work environment such as marine safety personnel and aircraft fuel handlers. Until such time that REFs (B)-(E) are updated, the interim confined space entry guidance provided in this message shall be followed.
3. Symptoms associated with acute overexposure to benzene include: drowsiness, dizziness, fast or irregular heartbeat, headaches, tremors, confusion and unconsciousness. If personnel experience any of these symptoms following exposure to benzene, they should seek medical care from their primary care physician for an acute exposure examination following the following the medical examination protocol for benzene found in REF (B). Additionally, if care above first aid is necessary than the unit must submit a mishap report following the guidance contained in REF (C) using the eMisReps system located at: (Copy and Paste URL Below into Browser)

https://hswl.uscg.mil

4. Per REF (A), the TLV-time weighted average (TLV-TWA) for benzene has been lowered from 0.5 parts per million (ppm) to 0.02 ppm and the TLV-short term exposure limit (TLV-STEL) has been eliminated.
5. TLV-TWA is defined as the TWA concentration for a conventional 8-hour workday and a 40-hour workweek, to which it is believed that nearly all workers may be repeatedly exposed, day after day, for a working lifetime without adverse effect.
6. REF (A) eliminated the TLV-STEL, which is defined as a 15-minute TWA exposure that should not be exceeded at any time during a workday, even if the 8-hour TWA is within the TLV-TWA.

7. The current Multi-Gas-Meter (MGM) issued to Prevention and Response personnel, the MSA Altair 4XR, lacks the ability to detect volatile organic compounds (VOCs), including benzene, at any level.
8. As the MGMs cannot detect benzene, the Marine Chemist Certificate remains the primary control for marine inspectors to prevent exposures. Marine Chemists clearing spaces will: verify previous three cargoes for the presence of benzene, specifically sample for benzene using instrumentation sufficient to detect benzene concentrations at the revised threshold and report those values on the marine chemist certificate posted.
9. Effective immediately, marine safety personnel are not authorized to enter a confined space that has previously carried benzene or any space that previously carried or may contain benzene (including tank vessel pump rooms), or confined spaces immediately adjacent to spaces that carried or may contain benzene without a marine chemist certificate that specifically states the detected benzene concentration is below the 0.02 ppm threshold.
   a. If concentration level is at or above 0.02 ppm, entry is NOT authorized.
   b. If the concentration level is below 0.02 ppm, entry is permitted given a properly issued and maintained Marine Chemist Certificate designates the space as "SAFE FOR WORKERS".
10. As a reminder, Coast Guard personnel may enter confined spaces initially certified by a Marine Chemist and then maintained by a Shipyard Competent Person only if:
   a. The shipyard's Health and Safety Program has been evaluated and found to be satisfactory.
   b. The Shipyard Competent Person's equipment is capable of testing for the same thresholds and appropriately calibrated. If in doubt, require a new Marine Chemist Certificate prior to entry.
11. As before, should an MGM alarm, personnel must egress and take actions in accordance with applicable Coast Guard; unit policies; and Federal regulations. Contact your servicing Safety and Environmental Health Officers (SEHOs) with questions regarding potential acute exposure events.
12. Fuel cell inspections and maintenance pose similar risks to aircraft maintenance personnel. Aircraft maintenance personnel must continue to utilize supplied air respirators when conducting fuel cell maintenance and depuddling operations following REF (D) and applicable maintenance procedure cards.
13. Dermal absorption poses a significant carcinogenic risk when working in spaces that previously contained benzene, underscoring the need for strict protective measures. Personnel are reminded to wear all required personal protective equipment (PPE) to minimize skin absorption and prevent cross-contamination.
14. The above changes will be incorporated into the next revisions of REFs (B)-(E).
15. Points of Contact: Office of Safety & Environmental Health (CG-1K3) CAPT Patrick Wallace, (571) 608-0716, Patrick.S.Wallace@uscg.mil; Office of Health Services (CG-1K2), CDR Dara Lee, (202) 372-0000, Dara.Lee@uscg.mil; Office of Inspections & Compliance (CG-5PC) CDR Kim Chesteen, (202) 372-1430, Kimberly.B.Chesteen@uscg.mil; Local unit support: Health, Safety and Work-Life Service Center SEHOS:

(Copy and Paste URL Below into Browser)

https://uscg.sharepoint-mil.us/sites/hswlsc/SafeEvHealth/SitePages/Contacts.aspx

16. RADM Paul Jung, Assistant Commandant for Health, Safety, and Work-Life (CG-1K) and RADM Wayne Arguin, Jr. Assistant Commandant for Prevention Policy (CG-5P), send.
17. Internet release is authorized.