



U.S. CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, D.C. 20207

17 MAR 1997

Mr. Paul Patty
Associate Managing Engineer
Underwriters Laboratories, Inc.
333 Pfingsten Road
Northbrook, Illinois 60062

Dear Mr. Patty:

The U.S. Consumer Product Safety Commission (CPSC) staff requests that Underwriters Laboratories, Inc. (UL) consider the following proposed recommendations for changes to the markings and instructions sections of the UL standard for "Single and Multiple Station Carbon Monoxide Detectors, UL 2034." These recommendations are in addition to those already presented to UL in our previous correspondence dated October 25, 1996.

Two recommendations are presented in the attachment to this letter. The first pertains to the instructions on the detector about the action a consumer should take when a CO detector alarms, and to the location of the instructions on the detector. The second recommendation pertains to the information in the installation instructions. CPSC staff believes that these recommendations will provide a uniform and consistent message for consumers and thereby increase consumers' effective use of detectors. The recommendations are based on information received at the January 23, 1997, CPSC Chairman's CO Detector Roundtable. In addition, the CPSC staff used the 1991 American National Standards Institute (ANSI) American National Standard for Product Safety Signs and Labels (ANSI Z535.4) as a reference. The views expressed in these recommendations are those of the CPSC staff and not necessarily those of the Commissioners.

CPSC staff appreciates UL's consideration of these recommendations. It is the staff's hope that these

NOTE: This document has not been reviewed or accepted by the Commission.
Initial rlh Date 4/3/97

No New Standard
 Revised
 Notified
 Consensus Proceeded

4/3/97 *AP*

ADDITIONAL RECOMMENDATIONS
OF THE
CONSUMER PRODUCT SAFETY COMMISSION (CPSC) STAFF
CONCERNING
UNDERWRITERS LABORATORIES (UL), INC STANDARD 2034
FOR
SINGLE AND MULTIPLE STATION CARBON MONOXIDE DETECTORS
FIRST EDITION-1992; NEW AND REVISED REQUIREMENTS-AUGUST 1995

(Recommendations 1-17 were included in the attachment to an October 25, 1996 letter from Elizabeth W. Leland, CPSC, to Paul Patty, UL.)

Recommendation 18
Section 77: Marking
Paragraph 77.1 (i)


Current Standard

This paragraph describes the wording that is to be placed on the detector as well as type of marking material, size of letters, spacing dimensions, etc., to be used in marking the detector.

CPSC Staff Recommendation

CPSC staff recommends that paragraph 77.1 (i) be revised as follows (new words in italics and words deleted as shown by ~~strikeout~~):

i) The following warning shall be placed on the outside face surface of the carbon monoxide detector, so that, when the detector is properly installed, the warning is clearly visible and easily readable without disconnecting the detector. The warning label shall be of Class IIIC marking material. The letters used for the signal word "WARNING" shall be boldfaced Helvetica type having a minimum uppercase letter height of 0.120 inch (3.05mm). ~~The minimum vertical spacing between lines of type shall be 0.046 inch (1.17 mm). These dimensions correspond to 12 point type.~~ in a color that contrasts with the background with a minimum size of 12 points. and shall be a minimum size of 18 points or a minimum of 1.5 times larger than the safety message letters. The letters used for the safety message words shall be boldfaced Helvetica type with a minimum size of 12 points. Lowercase letters shall be compatible with the uppercase letter specification. The safety message shall be separate and distinct from the other messages and graphics on the detector.

 (addition of hazard symbol is new) "WARNING"
"Carbon monoxide cannot be seen, felt, tasted or smelled but and can kill you be fatal. If alarm sounds:

- 1) ~~If anyone has a headache or an upset stomach, eCall the Fire Department; and immediately move to a~~

~~location which has fresh air. If no one exhibits symptoms of discomfort associated with CO poisoning, simply,~~

- ~~2) Operate reset button,~~
- ~~3) Turn off appliances, vehicles, or other sources of combustion carbon monoxide at once such as space heaters, + furnaces, hot water heaters, wood (coal, kerosene) burning stove or heater, RV, automobile, or the like) and vehicles;~~
- ~~4) 3) Immediately get move to fresh air - outdoors or by an open door/window. into premises or vehicle;~~
- ~~5) Fix the problem before restarting appliances or vehicle."~~

A sample warning label is attached as Appendix A. As noted in the CPSC staff submittal of October 25, 1996, the additional information in Section 77.1(i) regarding the warning signal would be deleted under CPSC staff recommendation 16.

CPSC Staff Rationale for Recommendation 18

The above recommendation is based on provisions of the American National Standards Institute (ANSI) American National Standard for Product Safety Signs and Labels (ANSI 535.4) which provides guidelines for designing warning labels. Warning labels should be legible and easily noticeable from the likely user position. The label should be easily understandable and motivating.

The CPSC staff recommendation about placing instructions on the detector where they can be seen easily will enable the consumer to find more quickly and safely the instructions about what to do when the detector sounds. The consumer should not be expected to remove the detector from the wall and turn it over to read the instructions.

The instructions currently require the occupant to determine if health symptoms are present and then, depending on the presence of those symptoms, call the fire department or take action to "fix the problem before restarting appliances or vehicle." CPSC staff has serious concerns about the ability of the occupant to think clearly and undertake self-diagnosis when the alarm sounds. CPSC staff, additionally, has serious concerns about the ability of an occupant to determine the source of CO, let alone "fix the problem" on his or her own. It is possible, indeed likely, that a qualified technician will be required to "fix the problem." Thus, the CPSC staff proposes that the occupant first call the fire department, then turn off all sources of carbon monoxide, and move to a source of fresh air.

If the October 25, 1996, recommendations of the CPSC staff are adopted, it is anticipated that the "nuisance" alarm problem will be alleviated from detectors conforming to these new requirements; this would not only decrease the numbers of calls to first responders, but would also clarify for them and for consumers that a potentially hazardous CO condition exists which requires correction.

Moreover, if the October 25, 1996, recommendations of the CPSC staff are adopted, the detector should sound before symptoms occur. Instructing the occupant to call the Fire Department will provide a consistent message to all consumers about the response to take when a CO detector sounds. As more fire departments become trained in responding to the calls and are equipped with the proper protocols and equipment for measuring CO, then other appropriate responders can be contacted as needed to "fix the problem." Armed with a consistent message about what to do when the detector sounds, consumers will be able more easily to take action to identify the source of CO, and to remove, replace, or repair the source of CO. Consumers will be able more easily to resolve the potential CO hazard to which the detector has alerted them.

Recommendation 19

Section 78: Instructions

Paragraph 78.1 (d)

Current Standard

This paragraph describes the information that is to be included in the installation instructions that are packaged with the detector. Paragraph (d) describes the action to take when an alarm activates.

CPSC Staff Recommendation

CPSC staff recommends that Paragraph 78.1(d) be changed as follows (new words in italics and words deleted as shown by strikeout):

d) *The hazard symbol Δ* , the word "WARNING", and at least the following or equivalent information in an obvious and prominent manner, such as by being underlined, encircled, or printed in larger or different color type:

~~"If this alarm sounds, it tells you that Actuation of this device indicates carbon monoxide (CO) is present the presence of carbon monoxide (CO). CO which can be FATAL kill you.~~

If alarm sounds:

1) ~~If anyone has a headache or upset stomach, call the Fire Department; and immediately move to a location which has fresh air. DO A HEAD COUNT TO CHECK THAT ALL PERSONS ARE ACCOUNTED FOR. DO NOT REENTER PREMISES UNTIL IT HAS BEEN AIRED OUT AND THE PROBLEM CORRECTED! If no one exhibits symptoms of discomfort associated with carbon monoxide poisoning, simply,~~

~~2) Operate reset button;~~

~~3) Turn off appliances, vehicles, or other sources of combustion carbon monoxide at once such as space heaters, (furnaces, hot water heaters, wood or coal burning stove, or heater, RV, automobile, or the like) and vehicles;~~

~~4) 3) Immediately get move to fresh air - outdoors or by an open door/window. into premises or vehicle;~~

~~5) Call a qualified technician and have the problem fixed before restarting appliances or vehicle."~~

As noted in the CPSC staff submittal of October 25, 1996, the additional information in Section 78 regarding the warning signal would be deleted under CPSC staff recommendation 17.

CPSC Staff Rationale for Recommendation 19

The rationale for this recommendation is the same as that for recommendation 18 dealing with the content of the markings on the detector. In addition, the message to the consumer that pertains to the actions to take when the detector sounds will be the same both on the detector and in the installation instructions; this is not the case under the current standard. The safety message on the detector and in the installation instructions should be as consistent as possible to avoid confusion.

APPENDIX A

 **WARNING**

Carbon monoxide cannot be seen or smelled,
and can kill you. If alarm sounds:

1. Call the Fire Department.
2. Turn off sources of carbon monoxide such as space heaters, furnaces, hot water heaters, and vehicles.
3. Immediately move to fresh air - outdoors or by an open door/window.