

A-14 GASOLINE AND PROPANE GAS DETECTION SYSTEMS

Table of Contents

14.1	PURPOSE.....	1
14.2	SCOPE.....	1
14.3	REFERENCED ORGANIZATIONS	1
14.4	DEFINITIONS	1
14.5	REQUIREMENTS – IN GENERAL	1
14.6	MATERIALS.....	2
14.7	DESIGN AND CONSTRUCTION.....	2
14.8	LOCATION AND INSTALLATION	2
14.9	REQUIREMENTS – INSTRUCTIONS.....	3
14.10	LABELING AND MARKING	3
	Origin and Development of ABYC A-14, Gasoline and Propane Gas Detection Systems.....	4

A-14 GASOLINE AND PROPANE GAS DETECTION SYSTEMS

Based on ABYC's assessment of the existing technology, and the problems associated with achieving the goals of this standard, ABYC recommends compliance with this standard for all boats, associated equipment, and systems manufactured after July 31, 2008.

14.1 PURPOSE

These standards are guides for the design, construction, and installation of gasoline and propane gas detection and indicating equipment on boats.

14.2 SCOPE

This standard applies to gasoline and propane gas detection systems when installed on boats.

14.3 REFERENCED ORGANIZATIONS

ABYC – American Boat & Yacht Council, Inc., 613 Third St., Annapolis, MD 21403 Phone: (410) 990-4460. Fax: (410) 990-4466. Website: www.abycinc.org.

UL – Underwriters Laboratories, 333 Pfingsten Road, Northbrook, IL 60062-2096. Obtain standards from global Engineering Documents, Inc., 15 Inverness Way East, Englewood, CO 80112. Phone: (800) 854-7179 (US and Canada), (303) 397-7956 (outside US and Canada), Fax: (303) 397-2740. Website: www.ul.com.

14.4 DEFINITIONS

Combustible – Capable of burning, generally in air under normal conditions of ambient temperature and pressure.

Detector – An electronic device, with or without an integral sensor, designed to analyze a gaseous mixture of either liquefied petroleum gas (LPG) or gasoline at the sensing element to determine the presence of the gasses before they reach some established level below the lower explosive limit of the gas or vapor.

Explosive range – The limits of concentration of a flammable gas or vapor (% by volume in air) in which explosion can occur upon ignition in a confined area.

Flammable – Capable of burning with a flame.

Ignition – The process of initiating self-sustained combustion.

Lower explosive limit – The lowest concentration of a gas or vapor in air that will burn or explode.

Sensing element – The element of a gas/vapor detector that is designed to be placed where the gas or vapor is to be analyzed.

Upper explosive limit – The highest concentration of a gas or vapor in air that will burn or explode.

14.5 REQUIREMENTS – IN GENERAL

14.5.1 Detectors shall be designed for continuous operation.

14.5.2 Detectors shall not shut down the main propulsion engine.

14.5.3 The detector shall be powered by the boat's DC electrical system, nominally 12V, and/or 24V, and/or 32V.