

METRIC

MIL-H-24776(SH)
8 June 1992

MILITARY SPECIFICATION

HYDRAZINE TEST KIT, NAVAL SHIPBOARD (METRIC)

This specification is approved for use by the Naval Sea Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers a water testing outfit using an organic dye for the determination of hydrazine in feedwater and boiler water.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

FEDERAL

PPP-F-320 - Fiberboard, Corrugated and Solid, Sheer Stock (Container Grade) and Cut Shapes

MILITARY

MIL-P-116 - Preservation, Methods of.
MIL-L-19140 - Lumber and Plywood, Fire Retardant Treated

STANDARDS

FEDERAL

FED-STD-313 - Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Sea Systems Command, SEA 5523, Department of the Navy, Washington, DC 20362-5101 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 6810

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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MIL-STD-2073-1 - DOD Material Procedures for Development and Application of Packaging Requirements

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Building 4D 700 Robbins Avenue, Philadelphia, PA 19111-5094.

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 1385 - Standard Test Method for Hydrazine in Water.

D 3951 - Standard Practice for Commercial Packaging. (DoD adopted)

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, (except for related associated detail specifications, specification sheets, or MS standards), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Definition. The hydrazine test kit measures the amount of hydrazine present in feedwater and boiler water at both the parts per billion (p/b) and the parts per million (p/m) level. The kit consists of a plastic sample with breaking device, evacuated ampoules containing test chemicals, and high and low range color comparators.

3.2 First article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.4) in accordance with 4.2.1.

3.3 Characteristics.

3.3.1 Performance. The hydrazine test kit shall measure the amount of hydrazine in feedwater and boiler water between 0 and 500 p/b using the low range comparator and between 0 and 100 p/m using the high-range comparator at a sample

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temperature of 21 to 38 degrees Centigrade ($^{\circ}\text{C}$). The value obtained shall be equal to the readable value nearest to the actual hydrazine level of the sample or to the next readable value above or below this value. Both comparators shall read 0 when no hydrazine is present. A readable value is defined as equal to the value of a color standard, the average of two adjacent color standards, or greater than the highest color standard.

3.3.2 Physical characteristics.

3.3.2.1 Component parts. The hydrazine test kit shall consist of the following:

- (a) One low range colorimetric comparator.
- (b) One high range colorimetric comparator.
- (c) One box of 30 ampoules.
- (d) One sample cup.
- (e) One storage case.

3.3.2.1.1 Low range colorimetric comparator. Details and dimensions of the low range color comparator used for making the hydrazine determinations shall be as shown on figure 1. The comparator shall consist of a transparent tube in which eight liquid filled, sealed glass standard color ampoules are mounted and enclosed. There shall be a center space into which the test ampoule can be inserted for color comparison. The comparator shall have the color standards representing 0, 10, 30, 50, 70, 100, 300, and 500 p/b hydrazine. These color standards shall range in color from clear to light yellow to yellow. The standard color ampoules shall be fabricated to the same dimensions as the test ampoules, 3.3.2.1.3. The comparator shall be marked with the date of manufacture. The comparator shall yield the results as specified in table I when tested as specified in 4.5.1.

TABLE I. Hydrazine solution values for low range comparator.

Standard (p/b hydrazine)	Accepted values (p/b)
0	0
10	5, 10, 20
30	30 ± 10.0
50	50 ± 10.0
70	60, 70, 85
100	85, 100, 200
300	300 ± 100
500	400, 500, greater than 500

3.3.2.1.2 High range colorimetric comparator. Details and dimensions of the high range color comparator used for making the hydrazine determinations shall be as shown on figure 2. The high range comparator shall consist of a rack in which nine liquid filled, sealed glass standard color ampoules are mounted. The comparator shall have the color standards representing 0, 5, 10, 15, 20, 40, 60,