



Compatibility of Interior Trim Materials with Amines

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. This test procedure evaluates the compatibility of materials with amine. The chemical reaction of amines (e.g., from Polyurethane (PUR)-foam) with particular constituents (e.g., stabilizers) in Polyvinyl Chloride (PVC) interior trim materials chemical compounds may result in a disagreeable typical (garlic or bulbous) odor.

1.2 Applicability. This procedure is applicable to interior trim materials which may be incompatible with free amines.

1.3 Remarks. Not applicable.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

None

2.3 Additional References. None.

3 Resources

3.1 Facilities.

3.1.1 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

3.1.2 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

3.2 Equipment.

3.2.1 Suitably-sized glass container with a sealed glass cover.

3.2.2 An air-circulating oven, capable of maintaining the temperature of $65\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$.

3.2.3 Pentamethyl-diethylene-triamine.

3.3 Test Vehicle/Test Piece. One (1) test specimen with a diameter of 80 mm nominal.

3.4 Test Time. Reference Section 4 and Section 5 for timing details.

3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. Personnel trained in accordance with the laboratory accreditation and Standard Operating Procedure requirements.

4 Procedure

A reagent is applied to a specimen, which is then placed in a sealed glass container and put in an oven for a specified time and temperature. The specimen is removed and evaluated for odor.

4.1 Preparation.

4.1.1 Test Specimen Preparation. The specimen shall be tested in the as-received condition without any preconditioning.

4.2 Conditions.

4.2.1 Environmental Conditions. Not applicable.

4.2.2 Test Conditions. Deviations from the requirements of this standard shall have been agreed upon. Such requirements shall be specified on component drawings, test certificates, reports, etc.

4.3 Instructions.

4.3.1 Test Procedure: 0.05 mL (= 3 drops) of the reagent, pentamethyl-diethylene-triamine, shall be dropped on the surface of the specimen.

4.3.2 The specimen shall be placed in the glass container and sealed tightly with the lid.

4.3.3 The container shall be placed in the oven at +65 °C +3 °C for 22 h +0.5/-0.0 h.

4.3.4 Afterwards, the container shall be removed and opened.

4.3.5 The specimen shall then be placed in the open air with forced ventilation for a minimum of 2 h. Make certain that the reagent is totally volatilized. Reagent is totally volatilized when no liquid remains on the surface of the specimen.

5 Data

5.1 Calculations. The specimen shall be evaluated for a strong garlic or bulbous odor. The odor can be easily detected by holding the tested specimen approximately 2.5 cm from the nose, in open air.

Note: Immediately after testing, specimens may have an odor similar to moist earth or mushrooms. This odor will dissipate in several days after testing. This odor is not considered a basis for rejection.

5.2 Interpretation of Results. Not applicable.

5.3 Test Documentation. The detection of any garlic or bulbous odor shall be recorded. The garlic or bulbous odor does not dissipate quickly. This odor remains offensive for several weeks after testing. If any garlic or bulbous odor is detected, the sample rating of "does not meet" the specification shall be recorded.

6 Safety

This Engineering Standard may involve safety requirements for hazardous materials, the method of operations and equipment. This standard does not propose to address all the safety issues associated with its use. It is the responsibility of the user of this standard to ensure compliance with all appropriate safety and health practices. This would include any specific training that may be required. The safety and health standards include site specific rules and procedures, company rules and procedures, and Government Standards. Contact shall be made with the appropriate site Safety and Health personnel for further direction and guidance in these matters.

7 Notes

7.1 Glossary. Not applicable.

7.2 Acronyms, Abbreviations, and Symbols.

GSSLT	Global Subsystem Leadership Team
GTDG	Global Textile Development Group
PUR	Polyurethane
PVC	Polyvinyl Chloride