



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.

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. Use a facility suitable for performing this test procedure.

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. Not applicable.

3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. Not applicable.

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 standard may involve hazardous materials, operations, and equipment. This standard does not propose to address all the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

7 Notes

7.1 Glossary. Not applicable.

7.2 Acronyms, Abbreviations, and Symbols.

GMNA	General Motors North America
GSSLT	Global Subsystem Leadership Team
GTDG	Global Textile Development Group
PUR	Polyurethane
PVC	Polyvinyl Chloride

8 Coding System

This standard shall be referenced in other documents, drawings, etc., as follows:

Test to GMW14131

Compatibility with Amine to GMW14131, "no typical odor", where "compatibility with amines" is the property tested, GMW14131 is the test method, and "no typical odor" is the requirement given in the material specification.