

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS DT-12
		Former Designation: CEMS DT-12
TITLE: Colorfastness to Cleaning and Chemicals	CURRENT REV No.: 1807	DATE: July 2018
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<i>This specification may involve hazardous materials, equipment, and procedures. This specification does not purport to address all of the safety issues associated with its use. The user is responsible to consult appropriate safety and health practices and to determine the applicability of regulatory limits prior to use.</i>		

1.0 SCOPE

This test method provides a procedure to evaluate the resistance of interior, exterior, and under hood/chassis components to cosmetic damage caused by various chemicals.

1.1 METHOD A: Chemicals/Method for Interior Parts.

1.2 METHOD B: Chemicals/Method for Exterior Parts.

1.3 METHOD C: Chemicals/Method for under hood and chassis parts.

2.0 REFERENCE DOCUMENTS

Unless otherwise specified the latest issue of all referenced standards shall apply. The following specifications and standards are referenced in this specification:

AATCC Test Method 8 – Colorfastness to Crocking
AATCC Test Method 15 – Colorfastness to Perspiration
AATCC Evaluation Procedure 1 – Gray Scale for Color Change
AATCC Evaluation Procedure 8 – Chromatic Transference Scale, 9-Step
NAVISTAR MPAPS B-1 – Coolant Concentrate, Ethylene Glycol Base
NAVISTAR MPAPS B-32 – Diesel Fuels
NAVISTAR MPAPS B-38 – Windshield Washer Solvent
NAVISTAR MPAPS B-50 – Restricted Chemical Substances
NAVISTAR MPAPS P-9543 – Engineering Test Report Requirements
ASTM D471 – Test Method for Rubber Property – Effect of Liquids
ASTM D1193 – Specification for Reagent Water
ISO 105-A02 – Textiles - Tests for Colour Fastness - Part A02: Grey Scale for Assessing Change in Colour

2.1 Restricted Chemical Substances

All product supplied to the requirements of this specification must comply with the requirements of the MPAPS B-50 specification.

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JULY 2018



Documents

Page 1 of 4

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NUMBER: MPAPS DT-12	TITLE: COLORFASTNESS TO CLEANING AND CHEMICALS	REVISION: 1807
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2.2 Safety

This specification does not address the safety of the chemicals or procedures used. It is up to the user to use good laboratory safety practices and take all appropriate safeguards in using, mixing and storing these chemicals.

3.0 MATERIAL

3.1 Interior trim component or test panels taken from the part.

3.2 Exterior trim component or test panels taken from the part.

3.3 Under hood or chassis components, test panels or materials taken from the part.

4.0 CHEMICALS

Chemicals shall be mixed shortly before being used. Appropriate characteristics shall be measured and reports such as pH, density, viscosity, etc. for each type of chemical listed. This information shall be included on the final test report along with the date and source of the chemicals. Water used to make solutions shall be a good laboratory grade of distilled or deionized (DI) water that meets an appropriate category of ASTM D1193.

4.1 METHOD A - Interior Parts

4.1.1 Ammonia based cleaner

4.1.1.1. 1-part Ammonia (commercial 27% solution)

4.1.1.2. 1-part Isopropyl Alcohol (commercial 70% solution)

4.1.1.3. 2 parts water

4.1.2 Detergent - oxidizing –

4.1.2.1. 20g Sodium Borate ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$ - Borax)

4.1.2.2. 13g Sodium Bicarbonate (NaHCO_3 - Baking Soda)

4.1.2.3. Dissolve in water to make 1 liter solution.

4.1.3 100% Petroleum Naptha

4.1.4 Bleach – dilute commercial bleach down to 1% Sodium Hypochlorite (NaOCl) in water.

4.1.5 Perspiration – Reference AATCC Test Method 15 – Prepare to make 1 liter of solution in water.

4.1.5.1. $10 \pm 0.01\text{g}$ sodium chloride (NaCl);

4.1.5.2. $1 \pm 0.01\text{g}$ lactic acid, USP 85%;

4.1.5.3. $1 \pm 0.01\text{g}$ disodium hydrogen phosphate, anhydrous (Na_2HPO_4);

4.1.5.4. $0.25 \pm 0.001\text{g}$ L-histidine monohydrochloride.

4.1.5.5. Add water to make 1 liter of solution. The pH shall be 4.3 ± 0.2 ; discard and remake if this is not met. The solution may be stored for 3 days.

4.1.6 General Purpose Cleaner

4.1.6.1. 0.3% Alkyl dimethylbenzyl ammonium chloride (or Formula 409)

4.1.7 Cola

4.1.7.1. 'Coca-Cola'™ brand cola (full concentration at room temperature)

4.1.8 Sunscreen (steering wheel only)

4.1.8.1. Any aerosol based, water-proof, sunscreen with an SPF factor of 30

4.1.9 Insect repellant (steering wheel only)

4.1.9.1. Any aerosol based insect repellant with 20% N, N diethyl-meta-toluamide (DEET)

4.1.10 Steam

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Page 2 of 4
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