

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		<i>NUMBER:</i> MPAPS B-50
		<i>Former Designation: CEMS B-50</i>
<i>TITLE:</i> Restricted Chemical Substances		<i>CURRENT REV No.:</i> 1402
		<i>DATE:</i> Feb. 2014
<i>WRITTEN/EDITED BY:</i> Materials Engineering	<i>APPROVED BY:</i> Materials Engineering	<i>SUPERSEDES:</i> CEMS B-50 – Aug 2013
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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>		
Change Notice:		

1.0 SCOPE

The purpose of this specification is to describe Navistar policy concerning the usage of certain chemical substances in Navistar products. These restrictions are based on environmental regulations and/or corporate requirements of Navistar, Inc. These substances shall be either excluded from or restricted in parts, materials, equipment, manufacturing processes, or other goods, supplied to and/or manufactured by Navistar, Inc., and intended for use in Navistar trucks, engines, and other branded products.

2.0 INTRODUCTION

Navistar believes that good environmental practice is good business, and is committed to pursuing sustainable strategies related to environmental protection. Sustainability means ensuring success in the present without compromising the future, so Navistar is committed to delivering great products that drive the economy while also operating in a manner that helps the environment and benefits society. Thus, Navistar operates on certain business principles which support environmental protection and reduce the impact of our products on the environment throughout the entire product lifecycle. These principles include producing vehicles and engines which meet all applicable environmental standards in the regions and countries in which we operate, eliminating or minimizing toxic substances from our production materials and end products, and ensuring that employees, suppliers, and customers accept responsibility for meeting environmental requirements when conducting business.

2.1 Regulations

2.1.1 General

Currently companies that sell electronic or automotive products are subject to a variety of environmental regulations. These include RoHS (Restriction of Hazardous Substances directive) which restricts the use of certain chemical substances in the manufacture of electrical and electronic equipment; WEEE (Waste Electrical and Electronic Equipment directive) which sets collection, recycling, and recovery targets related to the disposal of electrical goods; and ELV (End of Life Vehicles directive) which targets hazardous substances related to the dismantling of vehicles and components at their end of life. The automotive industry adheres to the requirements of the Global Automotive Declarable Substance List (GADSL), which covers declaration of certain information about substances relevant to parts and materials supplied by the supply chain to automotive manufacturers.

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2.1.2 REACH

The European Union (EU) has adopted a new restricted substance regulation called REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals), which increases complexity and mandatory tracking of substances in most every product used by the EU or shipped into the EU. This regulation requires the registration of hazardous substances that are sold, imported, manufactured, or used above certain quantities, and includes basic substances, materials, and components. In principle, REACH applies to all chemicals: not only chemicals used in industrial processes but also in our day-to-day life, for example in cleaning products and paints, as well as in articles such as clothes, furniture and electrical appliances. REACH applies to all substances with a few exemptions: radioactive substances, substances under customs supervision, waste, substances used in medicinal products (or other substances covered by equivalent legislation). Polymers are, for the time being, exempted from registration. REACH regulations also include substances of very high concern (SVHC), which are classified as: carcinogenic, mutagenic, or toxic to reproduction; persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB); or those substances identified, on a case-by-case basis, as causing probable serious effects to human health or the environment (e.g. endocrine disrupters).

2.1.3 Conflict Minerals

The U.S. Congress enacted section 1502 of the Dodd-Frank Act which required the Securities and Exchange Commission (SEC) to adopt rules to require certain SEC registrants to publically disclose their use of Conflict Minerals originating from the Democratic Republic of the Congo (DRC) or any of the nine adjoining countries: Angola, Burundi, Central African Republic, Congo Republic, Rwanda, Sudan, Tanzania, Uganda, and Zambia. These rules went into effect at the end of 2012 and require companies to report on their Conflict Mineral use annually starting in 2013. Navistar is committed to complying with the requirements of the SEC rules.

Conflict minerals are minerals mined in conditions of armed conflict and human rights abuses. The conflict minerals include gold, columbite-tantalite (coltan), cassiterite, wolframite, or their derivatives tantalum, tin, and tungsten. Under the 1502 Dodd-Frank Act, companies subject to the SEC annual reporting requirement are required to exercise due diligence on the source and chain of custody of their conflict minerals. The company is required to make the annual report available on their website and maintain records relating to the country of origin inquiries from their suppliers.

2.2 Design Requirements

It is expected that all suppliers to Navistar become familiar with the requirements of this specification, and that the design and fabrication of Navistar products, parts, components, or assemblies comply with the requirements defined herein.

3.0 APPLICATION

This specification is applicable to all parts, materials, components, assemblies, and subassemblies, whose material and/or product specifications are referenced to this specification.

4.0 REFERENCE DOCUMENTS

Unless otherwise specified, the latest issue of all referenced standards applies. The following specifications, standards, and regulations are referenced herein.

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Quality Standard <i>ISO 9001 or</i> ASTM E 30	ASTM E 1508
<i>TS-16949</i>	
CFR Title 40, Part 82	ASTM E 158 ASTM E 1621
ASTM C 1111	ASTM E 334 ASTM E 1642

5.0 GENERAL REQUIREMENTS

The requirements for restricted chemical substances per this specification are based on the requirements listed in the Global Automotive Declarable Substances List (GADSL) which is available at www.gadsl.org. Materials identified as (P) “prohibited” in the GADSL list must not be used in Navistar products. The use of materials listed as (D) “declarable” in GADSL as well as those defined as “SVHC” by REACH must be avoided in design of our products because the continuing availability of these materials is in question. The intentional addition of any of these restricted chemical substances to any part, component, or material being manufactured by Navistar or used by Navistar in the assembly of its products must be avoided.

5.1. Specified Intentional Additions

In cases where the addition of certain restricted chemical substances is necessary in order to meet the required content as described in a Navistar material specification, product specification, or purchase order, that maximum content described in the specification and/or purchase order is acceptable and exempted from the requirements of this specification.

5.2 Deviations

In specific cases where technical requirements make the use of a prohibited substance necessary and alternative or substitute materials meeting the technical requirements for that restricted substance are not yet available, a temporary deviation (limited to one year maximum duration) to allow the use of that restricted chemical substance may be authorized. In such cases, the standard Navistar policies regarding deviation authority, deviation approval, etc., shall apply. Deviations for use of hexavalent chromium are not permitted (see Section 5.4.3 below).

5.3 Reporting Requirements by All Suppliers

In order to ensure compliance to the regulations in Section 2.1, suppliers are required to input all material and substance data for each part number supplied to Navistar (all divisions) in the International Material Data System (IMDS) which can be accessed at <http://www.mdssystem.com>. An accepted Material Data Sheet (MDS) in IMDS by Navistar is a requirement for PPAP/PSW approval.

5.4 Summary of Navistar Chemical Restrictions

(Specific requirements are given in the GADSL list, www.gadsl.org)

5.4.1 Cadmium

Cadmium and cadmium compounds are prohibited and shall not be used in surface treatments, dyes, paints, plastic colorizers, plastic resins, pigments, or stabilizers. The use of cadmium as a plating in certain safety devices, electrical contacts, and on fasteners must be eliminated. In those limited cases where substitute plating materials are not yet fully developed, temporary deviations to permit cadmium plating may be requested if no other material is deemed suitable for the application.

5.4.2 Chlorofluorocarbons

The use of chlorofluorocarbon refrigerants in Navistar air conditioning, or other cooling systems, is prohibited. The use of chlorofluorocarbon refrigerants in automotive air conditioning systems was halted by Federal mandate effective December 31, 1995 (CFR 40-82). The use of any chlorofluorocarbon

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compound described in CFR Title 40, Part 82, in any Navistar cooling or other heat-exchange system is prohibited.

5.4.3 Hexavalent Chrome

The use of hexavalent chrome/chromates (as used, for example, as a passivation for zinc plating) is prohibited. The intentional addition of hexavalent chrome to any material, part, or component being supplied to the requirements of this specification is prohibited.

5.4.4 Lead and Lead Compounds

Lead and lead compounds shall not be used in surface treatments, dyes, pigments, paints, plastic colorizers, plastic resins, or stabilizers. The intentional addition or use of lead in any material or product, whose material or product specification does not specifically require such usage, is prohibited.

5.4.5 Mercury and Mercury Compounds

The intentional addition of mercury or any mercury compound to any material, part, or component, whose material and/or product specifications are referenced to this specification, is prohibited.

5.4.5.1 Mercury Switches and Contacts: The use of mercury switches and/or contacts in parts or components being manufactured by Navistar or used by Navistar in the assembly of its products is prohibited.

5.4.5.2 Mercury Lamps and Lights: The use of mercury and/or mercury compounds in lamps and/or lights is being restricted by several countries, in some cases use of mercury compounds after mid-2006 is prohibited. Therefore, the use of mercury in lamps and lights in Navistar products should be avoided.

5.4.6 PCBs and PBBs

The use of polychlorinated biphenyls (PCBs) and polybrominated biphenyls (PBBs) in materials, parts, or components supplied to Navistar is prohibited. The use of PCBs and PBBs in new products is banned by the EPA. These products are no longer produced commercially in the USA.

5.4.6.1 PBBs and PBDEs

The use of polybrominated biphenyls (PBBs) and/ or polybrominated diphenyl ethers (PBDEs) in materials or components supplied to Navistar, including plastic packaging materials, is prohibited.

5.4.7 Radioactive Compounds

The use of any radioactive material or compound in any material, part, product, or component supplied to Navistar is prohibited.

6.0 QUALITY

See primary material or product specification for requirements.

7.0 METHODS OF TEST

When necessary, commonly accepted methods of chemical analysis may be used to determine the presence of restricted chemical substances at or below their allowable levels. See ASTM E334 and E1642 for gas chromatography methods and ASTM C1111 for atomic absorption methods. See ASTM E30, E158, E1508, and E1621 for emission spectrochemical analysis methods.

7.1 ASTM Standards are available from ASTM International by phone at (610) 832-9585 or via their website at www.astm.org .

8.0 SOURCE APPROVAL AND QUALITY CONTROL

See primary material or product specification for requirements.

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9.0 DESIGNATION ON DRAWINGS AND CONTROL DOCUMENTS

This material specification shall be referenced in other material specifications (e.g., TMS, CEMS, etc.), engineering standards (e.g., ESP), design requirements documents (DRD), and other control documents as follows:

“Effective January 1, 2007, all product supplied to the requirements of this specification must comply with the requirements of the MPAPS B-50 specification on Restricted Chemical Substances.”

New or revised engineering drawings should include the following statement, if not automatically included in the title block program: *“All parts supplied to Navistar must comply with MPAPS B-50 for restricted chemical substances.”*

10.0 PACKING, SHIPPING AND IDENTIFICATION

See primary material or product specification for requirements.

11.0 TECHNICAL INFORMATION

For further information related to the technical content of this specification, contact:	Suppliers may obtain copies of this specification by contacting:
Materials Engineering and Technology Dept. 10400 W. North Ave. Melrose Park, IL 60160 E-mail: MaterialsEngineering@Navistar.com	IHS Global Inc. 15 Inverness Way East Englewood CO 80112-5776 Phone: 1-800-854-7179 E-mail: Automotive@IHS.com Website: http://global.ihs.com