



Water Quality

1 Scope

This specification details the requirements for water quality in processing vehicles in the paint shop. The requirements will be used to ensure optimum quality of the incoming water that is applied on the vehicle. The water must be removed from the surface without leaving any foreign matter and shall not adversely affect paint adhesion to the subsequent coatings. The water must not etch the coated surface and must minimize water spotting of a cleaned surface.

1.1 Material Description. Materials referenced in this standard are classified as Potable, City or Non-High Purity (HPW). Paragraph 3.1 defines specified limits of certain ions and compounds that can be found in water. It directs that water sources not falling within these limits cannot be used for make-up or addition to chemical systems referenced to this requirement.

1.2 Symbols. Not applicable.

1.3 Applicability. This standard applies to all full body vehicles, individual parts, and space frames. These systems provide wash, rinse, and filtration equipment to support each individual paint shop process.

2 References

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

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

GMW3059

GMW17405

3 Requirements

3.1 The water may be applied by either spray or immersion. Water temperature will be specified by the end user. Water quality should be as follows:

- Total Hardness (as CaCO₃) 150 ppm maximum
- Sulfates 50 ppm maximum
- Chlorides 25 ppm maximum
- pH 6.0 to 8.0
- Conductivity 400 S/m (400 mhos)
- Total Heavy Metal Less than 1 ppm
- Bacteria Count 10³ colonies/ml maximum
- Silica 1.0 ppm maximum
- Calcium 60 ppm maximum.

4 Manufacturing Process

All shipment of material or parts under contract or purchase order manufactured to this standard shall be equivalent in every respect to the initial samples approved by Engineering. There shall be no changes in either formulation or manufacturing processes permitted without prior notification and approval by Engineering. Lack of notification by the supplier constitutes grounds for rejection of any shipment. While samples may be taken from incoming shipments and checked for conformance to this standard, the supplier shall accept the

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responsibility for incoming shipments meeting this standard without dependence upon purchaser's inspection. In addition the supplier shall be responsible for submitting a Certificate of Analysis with each batch of material arriving at a plant. This document shall be prepared and provide data in accordance with the requirement detailed in GMW17405.

5 Rules and Regulations

5.1 Legal Regulations. All materials must satisfy applicable laws, rules, regulations and recommendations valid in the country of usage.

5.2 Language. In the event of conflict between the English and domestic language, the English language shall take precedence.

5.3 Inspection and Rejection. Samples of components or materials released to a GM material specification shall be tested for conformity with the requirements of this material specification and approved by the responsible Engineering department prior to commencement of delivery of bulk supplies.

A new approval must be received for any changes, e.g., properties, manufacturing process, location of manufacture, etc. If not otherwise agreed, all testing and documentation normally required for initial release must be completed.

It is the responsibility of the supplier to inform the customer in a timely manner, without solicitation, and to include documentation of all modifications of materials and/or processes and to apply for a new release.

5.4 Material Safety Data Sheets/Safety Data Sheets (MSDS/SDS). For new product submissions, or when a change in chemical composition of an existing product has occurred, a complete copy of the Material Safety Data Sheet/Safety Data Sheet must be submitted in compliance with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) requirements or other country-specific MSDS/SDS requirements.

5.5 All materials supplied to this standard must comply with the requirements of the International Material Data System (IMDS) and GMW3059, **Restricted and Reportable Substances**.

6 Approved Sources

Materials supplied to this specification must be approved by General Motors.

The appropriate GM Materials Engineering Department (Product Engineering or Manufacturing Engineering) must confirm materials as meeting the requirements of this specification. Only materials/sources listed in the GM Materials File (MATSPC) under this standard number have been qualified by Engineering as meeting the requirements of this standard.

7 Notes

7.1 Glossary.

MATSPC: Global repository of GM approved materials for corresponding GM Engineering Standards.

7.2 Acronyms, Abbreviations, and Symbols.

GHS	Globally Harmonized System of Classification and Labeling of Chemicals
HPW	Non-High Purity
IMDS	International Material Data System
MSDS	Material Safety Data Sheet
PPAP	Production Part Approval Process
ppm	parts per million
SDS	Safety Data Sheet
S	Siemens

8 Coding System

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

Material per GMW17431