



Grease, Calcium Sulfonate Thickened

1 Scope

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/Material Description. Greases approved to this specification with be thickened with a calcium sulfonate thickener. The base oil will be either mineral oil, Group III or Poly alpha olefin (PAO) synthetic.

1.2 Symbols. Not applicable.

1.3 Applicability. These greases are used where low water washout, high load carrying, and corrosion resistance is required.

1.4 Remarks. Because of potential compatibility issues, check with Material Engineering fluids group before switching to another grease type.

2 References

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

2.1 External Standards/Specifications.

ASTM D217	ASTM D445	ASTM D1264	ASTM D1742
ASTM D1743	ASTM D2265	ASTM D2266	ASTM D2596

2.2 GM Standards/Specifications.

GMW3059

2.3 Additional References. Not applicable.

3 Requirements

3.1 All materials supplied to this standard must comply with GMW3059, Restricted and Reportable Substances. For raw materials, non-dimensional materials (e.g., fluids, greases) and/or bulk materials that require approval into the GM Materials Approved Source List (GMMASL), an International Material Data System (IMDS) submission must be made by the material supplier as a material Material Data Sheet (mMDS). After the mMDS is approved by the GM IMDS team, the materials supplier is to provide a "Header only report" to the responsible GM Materials Engineer. Further guidance can be found in the GM-specific instructions on the IMDS website.

3.2 Specific Requirements. See Table 1.

Table 1: Physical Requirements

Test	Method	Units	9986346	9986457
Penetration, worked 60 strokes	ASTM D217	mm/10	290 to 320	280 to 310
Dropping point	ASTM D2265	°C	> 260	> 300
Oil separation	ASTM D1742	%	5 maximum	
Base oil KV at 40 °C	ASTM D445	cSt	300 minimum	100

Test	Method	Units	9986346	9986457
Appearance	Visual		Smooth and green	N/A
Four ball wear scar	ASTM D2266	mm	0.6 maximum	N/A
Four ball extreme pressure weld load	ASTM D2596	Kg	300 minimum	500 minimum
Rust test	ASTM D1743	Unitless	Pass	N/A
Water washout	ASTM D1264	%	5 maximum	N/A

Note: cSt = Centistokes; KV = Kinematic Viscosity

4 Manufacturing Process

Not applicable.

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. All shipments of material or parts under contract or purchase order manufactured to this specification 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 specification, the supplier shall accept the responsibility for incoming shipments meeting this specification without dependence upon purchaser's inspection.

The series of tests used to approve each batch of product along with acceptance limits will be agreed upon by the purchaser and seller. The laboratory providing the certificate of analysis must also participate in a proficiency testing program (round robin) that is approved by the Fuels, Fluids, and Lubricants Global Subsystem Leadership Team (GSSLT) or designate. The Fuels, Fluids, and Lubricants GSSLT or designate must receive copies of the proficiency testing reports directly from the test program administrator.

5.4 Initial Source Approval. No shipment shall be made by any supplier until representative initial production samples have been approved by the Fuels, Fluids, and Lubricants Global Subsystem Leadership Team or designees meeting the requirements of this specification.

5.5 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.

6 Approved Sources

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

The appropriate GM Materials Engineering department(s) must confirm material as meeting the requirements of this specification. Any test data sheets of material submitted to General Motors for such confirmation (e.g., during Production Part Approval Process (PPAP)) under this material specification must list all properties and must apply corresponding test methods of this material specification.

For other GM locations, the responsible engineering group should be contacted to obtain the approved source in that individual country.