



Grease, Mineral Oil and Lithium Soap Thickener

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. This specification defines grease composed of mineral oil and lithium soap thickener and having consistency of one, two or three (1, 2 or 3).

1.2 Symbols. Not applicable.

1.3 Applicability. Grease defined by this specification may be used on wheel bearings and/or chassis components (including ball joints, steering pivots, and universal joints).

1.4 Remarks. Suitability with plastics and elastomers must be verified. This grease is not suitable for use with elastomers made from buna, butyl, ethylene propylene diene monomer (M-class) (EPDM), or natural rubber.

2 References

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

2.1 External Standards/Specifications.

ASTM D217	ASTM D1743	DIN 51350	DIN ISO 2137
ASTM D566	ASTM D2265	DIN 51802	DIN ISO 2176
ASTM D1264	ASTM D2596	DIN 51807	
ASTM D1742	ASTM D6138	DIN 51817	

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**, including the requirement to obtain a GM-approved International Material Data System (IMDS) submission.

3.2 Requirements on Test Specimens.

3.2.1 Base Oil. Mineral oil shall be used as the base oil.

3.2.2 Thickener. Lithium-based soap shall be used as the thickener. The type of soap shall be characterized as being lithium, lithium 12-hydroxystearate, or lithium complex.

3.2.3 Specific Requirements. The grease shall meet the requirements listed in Appendix A, Table A1 and Table A2.

3.3 Performance Levels.

3.3.1 Designations. Performance level designations for chassis grease are CA and CB. Performance level designations for wheel bearing grease are WA and WB.

3.3.2 Nomenclature. Grease type, performance levels and consistency are defined using the following nomenclature:

1XY# where:

- **1** means mineral oil-based with lithium soap thickener
- **XY** are letters designating performance levels shown in 3.2.1
- **#** is a number from one to three (1 to 3) indicating National Lubricating Grease Institute (NLGI) consistency. (Example: 1CB2 is mineral oil with lithium thickener, CB performance level, NLGI consistency 2.)

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.