



Powertrain Take-Off Unit (PTU) Synthetic Lubricant

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 is the specification for GM Part Number 9986482 which is a Powertrain Take-Off Unit (PTU) Synthetic Lubricant. The material is an enhanced, specially formulated, full synthetic polyalphaolefin (PAO) 6 75W90 hypoid gear lubricant. This product also meets all the performance requirements per MIL-PRF-2015 E, GL-5 (Gear Lubricant) gear oil and Eastern Oil Performance Specification 19256084.

1.2 Symbols. Not applicable.

1.3 Applicability. For use in American Axle Products – PTU.

1.4 Remarks. This specification is published to reflect the change in base oil from PAO 4 to PAO 6.

2 References

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

2.1 External Standards/Specifications.

MIL-PRF-2105 E

2.2 GM Standards/Specifications.

GMW3059

2.3 Additional References.

- American Axle MS-2366
- Eastern Oil 19256084
- GL-5 Gear Oil

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 Conformance with Approved Samples. Standard infrared spectra established in accordance with specific properties in Eastern Oil 19256084 when compared to subsequent shipments of lubricants shall show no significant deviation.

3.3. Performance Requirement. The fluid shall meet all the requirements specified in specification 19256084 and MS-2366.

3.4 Identification. The following information shall appear on each container: GM part number; manufacturer's identification, part number and batch number; date of manufacturer; quantity and mass of material.

3.5 Initial Source Approval. No shipment shall be made by any supplier until representative initial production samples have been approved by Engineering as meeting the requirements of this specification.

3.6 The material shall be from approved supplier sources following:

GM Part Number 9986482

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.

7 Notes

7.1 Glossary. Not applicable.

7.2 Acronyms, Abbreviations, and Symbols.

GHS	Globally Harmonized System of Classification and Labeling of Chemicals
GL	Gear Lubricant
GSSLT	Global Subsystem Leadership Team
IMDS	International Material Data System
MSDS	Material Safety Data Sheet
PAO	Polyalphaolefin
PPAP	Production Part Approval Process
PTU	Powertrain Take-off Unit