



Lubricant, Rubber (Liquid Soap)

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. The material defined in this specification is a lubricant suitable for diluting with water to various concentration and primarily for use as a lubricant to facilitate assembly of rubber parts. The usual mix is 1:10 parts lubricant to potable water.

1.2 Symbols. Not applicable.

1.3 Applicability. Temporary water-based rubber lubricant is used for assembly of non-pressurized rubber components.

1.4 Remarks. None.

2 References

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

2.1 External Standards/Specifications.

ASTM D471

2.2 GM Standards/Specifications.

GMW3059

2.3 Additional References.

GM Part Number 9985712

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 Lubricity. The material shall have a lubricating action on rubber parts when diluted with as much as 10 parts water.

3.3 Rubber Deterioration. The volume increase of the specified rubber submerged in the soap lubricant for 70 h at 70 °C according to ASTM D471 shall be $\leq 6\%$.

3.4 Oxidation Stability. The material shall not oxidize to a hard, solid film when evaporated to dryness.

3.5 Permanence and Solubility. Material shall not exhibit any settling or stratification after 6 months storage. Containers shall be free of any particulate matter or other foreign material.

3.6 Effect on Paint and Metal Surfaces. Using an eye dropper, apply 10 separate drops of lube solution to a current production body-painted white test panel. After 24 h at room temperature, wipe the test panel/part with a clean, lint-free cloth. The painted panel/part shall show no evidence of staining, loss of surface finish, softening, peeling, or blistering. Metal production part fittings are tested by soaking only the production-intent rubber cap, tube or hose in lube solution for 5 h. Assemble to a new, clean mating metal tube, connector, etc., plugging the open assembly ends. Place the assembly in an air-circulating oven at 24 h at 38 °C. Remove the assembled

parts and allow to cool for 15 minutes. Separate the rubber from the metal. No corrosion must appear on the metal.

3.7 Assembly Function. The lubricated assembly shall meet all the functional requirements as specified on the detail and assembly drawings.

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.