



Shell FM Gear Oil

Gear lubricant for food & beverage processing equipment

Shell FM Gear Oil 220 and 460 are anti-wear lubricants designed for the lubrication of enclosed gears in the food and beverage processing and packaging industry.

They are based on a careful blend of base fluids and selected additives chosen for their ability to meet the stringent requirements of the food & beverage industry.

Certified by NSF for ISO 21469 and registered by NSF (Class H1) for use where there is potential for incidental food contact. Products contain only substances permitted under US 21 CFR 178.3570, 178.3620 and 182 for use in lubricants with incidental food contact.

Applications

- ◆ Lubrication of enclosed gear boxes used in the food industry
- ◆ Also intended for use in equipment manufacturing packaging

Performance Features

- ◆ The base fluid has been selected for its ability to provide good lubrication under variety of applications
- ◆ Suitable for steel on steel and phosphor-bronze wheel applications
- ◆ Good anti-wear and extreme pressure characteristics
- ◆ Good anti-oxidant properties, resisting the formation of deposits and sludge at elevated temperatures
- ◆ Neutral odour and taste

Seal & Paint Compatibility

Compatible with the elastomers, gaskets, seals and paints normally used in food machinery lubrication systems.

Specifications & Certificates

- ◆ NSF H1 registered
- ◆ ISO 21469 certified
- ◆ Kosher
- ◆ Halal
- ◆ DIN 51517 CLP
- ◆ ISO 6743-6 L-CKC

Approvals & Recommendations

This is an ongoing process, please contact your local Shell Company for any updates.

Highly refined lubricant

- ◆ Does not contain natural products derived from animals or genetically modified organisms (GMO)
- ◆ Does not contain any allergenic or intolerance-inducing substances as specified in Annex IIIa of EC directive 2003/89/EC
- ◆ Suitable for use where vegetarian and 'nut-free' food is prepared
- ◆ Biostatic; does not promote the growth of bacteria or fungal organisms

“Incidental Food contact”

Registered by NSF (Class H1) and meets the USDA H1 guidelines (1998) for lubricants for use where there is a potential for incidental food contact.

Certified by NSF for ISO 21469, Safety of machinery, Lubricants with incidental product contact, Hygiene requirements.

Made only from substances permitted under the US FDA Title 21 CFR 178.3570, 178.3620 and/or those generally regarded as safe (US 21 CFR 182) for use in food grade lubricants.

To comply with the requirements of US 21 CFR 178.3570, contact with food should be avoided where possible. In the case of incidental food contact, the concentration of this product in the food must not exceed 10 parts per million (10mg/kg of foodstuff).

In locations and/or applications where local legislation does not specify maximum concentration limits, Shell recommends that this same 10 ppm limit be observed, as up to this concentration Shell FM Gear Oil will not impart undesirable taste, odour or colour to food, nor will cause adverse health effects.

Consistent with good manufacturing practice, use only the amount necessary to achieve correct lubrication and take appropriate corrective action should excessive incidental contact with food be detected.

Protect the environment

Take used lubricants and empty packs to an authorised collection point. Do not discharge into drains, soil or water.

Health & Safety

Based on information available, Shell FM Gear Oil is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

As for all oils, prolonged or repeated contact with the skin should be avoided.

For further information refer to the appropriate Shell Material Safety Data Sheet.

Handling & storage

All food grade lubricants should be stored separately from other lubricants, chemical substances and foodstuffs and out of direct sunlight or other heat sources. Store between 0°C and 40°C. Provided that the product has been stored under these conditions we recommend that the product be used within 5 years from the date of manufacture. Consult your local Shell Company for details.

Accept for use new Shell FM Gear Oil only if the manufacturer's seal is intact.

Before opening the pack ensure the area around the closure is clean. It is recommended that it be cleaned with potable water and then dried with a clean cloth before opening.

Record the date the seal was broken. To prevent product contamination, always close the package after use. Upon opening a pack, the product must be used within 2 years (or within 5 years of date of manufacture, whichever is the sooner).

Typical Physical Characteristics

Shell FM Gear Oil			220	460
Property		Test method		
NSF Registration No.			140478	140479
Colour			Colourless	
Density at 15°C	kg/m ³	ISO 12185	875	880
Flashpoint	°C	ISO 2592	265	262
Pourpoint	°C	ISO 3016	-12	-12
Kin. Visc. at 40°C	mm ² /s	ISO 3104	220	460
Kin. Visc. at 100°C	mm ² /s	ISO 3104	20.0	33.0
Viscosity index		ISO 2909	106	109
FZG-Test A/8.3/90 Failure Load Stage		ISO 14635-1	>10	

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

Produced according to Shell Quality Standards, in facilities where HACCP audit and Good Manufacturing Practice have been implemented and form part of the quality/environment management systems ISO 9001, ISO 14001 and ISO 21469.