



SUGAR MILL

LUBRICATION GUIDE



COLLECTION & PREPARATION

MINERAL M SEMI-SYNTHETIC SS SYNTHETIC S

CANE RECEPTION & CONVEYING

Location & Equipment	Location Point	Recommended Lubricant	SAP Number	Product Type
Cane Tipper	Bearings in pillow blocks	Molybube® EP High Viscosity Gr 680-2	301682150004	MINERAL
Dump Hopper	Bearings in pillow blocks	Molybube EP High Viscosity Gr 680-2	301682150004	MINERAL
Belt Conveyor / Flight Conveyor	Chain links & sprockets	Super Clean Chain Lube	300955150285	MINERAL
Conveyor Gear Reducers	Gear oil sump	Industrial Gear Oil	302185150003	MINERAL
		100 Gear Oil EP	301195150007	MINERAL

CANE PREPARATION / KNIFE GRINDING

Location & Equipment	Location Point	Recommended Lubricant	SAP Number	Product Type
Cane Knives / Shredders	Cutter bearings	Molybube EP Grease CSC 1	500962150004	MINERAL
		Termalene® MP EP Grease 2	301091150004	MINERAL
Cane Knives / Shredders	Gear oil sump	Industrial Gear Oil	302185150003	MINERAL
		100 Gear Oil EP	301195150007	MINERAL

EXTRACTION

MILLING - EXTRACTION (TANDEMS / ROLLER MILLS)

Location & Equipment	Location Point	Recommended Lubricant	SAP Number	Product Type
Turbine	Turbine	Turbine Oil 68	302154150007	MINERAL
Gearbox	Gear oil sump	Synthetic Gear Oil 320	301605150007	SYNTHETIC
Gear Drive	Mill gearbox oil (With Planetarium Gear boxes)	Synthetic Gear Oil 320	301605150007	SYNTHETIC
Gear Drive	Mill gearbox (With open gears)	GOOD Molybube Mill Gear Grease Heavy	301343150002	MINERAL
		BETTER Sugar Clear Gear And Bearing Lube Heavy	301691150002	SEMI-SYNTHETIC
		BEST Clear Gear Heavy	301689150002	SYNTHETIC
Mill Tandems (roller pairs)	Plain journal bearings (Bronzes)	GOOD Sugar Clear Gear And Bearing Lube Heavy	301691150002	SEMI-SYNTHETIC
		BETTER Clear Gear Heavy	301689150002	SYNTHETIC
		BEST Molybube Mill Gear Grease Heavy	301343150002	MINERAL
Crown Gears	Open crown gears	GOOD Sugar Clear Gear And Bearing Lube Heavy	301691150002	SEMI-SYNTHETIC
		BETTER Molybube Mill Gear Grease Heavy	301343150002	MINERAL
		BEST Molybube SF 100 Semi-Synthetic OGL Heavy	301774150002	SEMI-SYNTHETIC
Hydraulic Units	hydraulic pistons of the upper mill rolls	Premium AW Hydraulic Fluid (46 - 68)	302124150007	MINERAL
Thrust Bearings	Thrust bearings	Molybube EP Grease CSC 1	500962150004	MINERAL
		Termalene MP EP Grease 2	301091150004	MINERAL

PROCESSING - REFINERY

CLARIFICATION / MIXING (CLARIFIERS, AGITATORS)

Location & Equipment	Location Point	Recommended Food Grade Lubricant	SAP Number	Product Type
Clarifier / Agitator	Agitator shaft bearings	No-Tox® HD Food Grade Grease NLGI 2	301059150002	MINERAL
Clarifier / Agitator	Gearboxes	No-Tox HD Food Grade Oil ISO 220	301241150007	MINERAL
Clarifier Rake Drives	Seals, pinions	No-Tox HD Food Grade Grease NLGI 2	301059150002	MINERAL
Gearboxes	Gearboxes	No-Tox HD Food Grade Oil ISO 220	301241150007	MINERAL
Drive Bearings	Central hub and tank arms	No-Tox HD Food Grade Grease NLGI 2	301059150002	MINERAL

FILTRATION / SCREENING

Location & Equipment	Location Point	Recommended Food Grade Lubricant	SAP Number	Product Type
Rotary / Screw screens	Roller bearings	No-Tox Food Grade Clear Grease NLGI 2	301568150025	MINERAL
Rotary / Screw screens	Chains	No-Tox Food Grade Chain Lubricant ISO 100	301056150025	MINERAL

PROCESSING - REFINERY CONT.

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EVAPORATION / HEAT TRANSFER

Location & Equipment	Location Point	Recommended Food Grade Lubricant	SAP Number	Product Type
Circulation Pumps	Pump bearings	No-Tox FG Clear Grease 1.5	301234150002	MINERAL
Vacuum Pumps	Gearboxes	No-Tox FG Clear Grease 1.5	301234150002	MINERAL
Heat-Exchanger Bearings	Motor bearings	No-Tox FG Clear Grease 1.5	301234150002	MINERAL

VACUUM PANS & CENTRIFUGES (CRYSTALLIZATION & SEPARATION)

Location & Equipment	Location Point	Recommended Food Grade Lubricant	SAP Number	Product Type
Vacuum Pan Drives	Motor bearings	No-Tox FG Clear Grease 1.5	301234150002	MINERAL
Centrifuge Bearings	Centrifuge spindle bearings	No-Tox FG Clear Grease 1.5	301234150002	MINERAL
Centrifuge Motors	Seals, gearbox	No-Tox Syntra FG synthetic Oil	300934150007	SYNTHETIC

CENTRIFUGAL SUGAR SEPARATORS / DRYERS

Location & Equipment	Location Point	Recommended Food Grade Lubricant	SAP Number	Product Type
Centrifuge Drive	High speed spindle bearings	No-Tox FG Clear Grease 1.5	301234150002	MINERAL
Centrifuge	Gearboxes	No-Tox Syntra FG synthetic Oil	300934150007	SYNTHETIC

MOLASSES HANDLING - PUMPS & VALVES

Location & Equipment	Location Point	Recommended Food Grade Lubricant	SAP Number	Product Type
Molasses Pumps/ Slurry Pumps	Pump bearings	No-Tox FG Clear Grease 1.5	301234150002	MINERAL
Molasses Pumps/ Slurry Pumps	Pump oil	No-Tox Syntra FG synthetic Oil	300934150007	SYNTHETIC

CONVEYING & BUCKET ELEVATORS

Location & Equipment	Location Point	Recommended Food Grade Lubricant	SAP Number	Product Type
Bucket Elevator	Chain links & sprockets	No-Tox Food Grade Chain Lubricant ISO 100	301056150025	MINERAL
Bucket Elevator	Bearing housings	No-Tox HD Food Grade Grease NLGI 2	301059150002	MINERAL

BOILERS & STEAM DRIVEN EQUIPMENT

Location & Equipment	Location Point	Recommended Food Grade Lubricant	SAP Number	Product Type
Boiler Feed Pump	Pump bearings	No-Tox FG Clear Grease 1.5	301234150002	MINERAL
Boiler Feed Pump	Pump oil	No-Tox Syntra FG synthetic Oil	300934150007	SYNTHETIC

PACKAGING / CANNING / SEAMING LINES

Location & Equipment	Location Point	Recommended Food Grade Lubricant	SAP Number	Product Type
Packaging Line Seamer	Seamer bearings	No-Tox Food Grade Seamer Oil ISO 150	301312150007	MINERAL
Packaging Line Conveyor	Chain drives	No-Tox Food Grade Multipurpose Lubricant Spray ISO 100	301561150285	MINERAL

PLANT COMPRESSED AIR & PNEUMATICS

Location & Equipment	Location Point	Recommended Food Grade Lubricant	SAP Number	Product Type
Compressed Air System	Airline lubricators	No-Tox Food Grade Air Line Lubricant ISO 22	301564150007	MINERAL
Air Compressor	Compressor oil	No-Tox Syntra FG Synthetic Oil	300934150007	SYNTHETIC

GENERAL PURPOSE / WASHDOWN AREAS

Location & Equipment	Location
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BEL-RAY®

For over 75 years, Bel-Ray® has been a leader in lubrication technology. Our products are engineered to protect equipment, reduce downtime and maximize operational efficiency to deliver superior business value across a wide variety of applications, including Automotive, Motorcycle and Power Sports, Mining, Oil and Gas Pipeline Operations, Food Processing, Heavy Equipment and other Industries.

Bel-Ray products have achieved the highest standards of quality and performance, while operating under harsh conditions and the toughest environments, earning the trust of Industrial Maintenance, Reliability and Engineering professionals across the globe.

CALUMET

Calumet (NASDAQ: CLMT) is a leading independent producer of high-quality, specialty hydrocarbon products and services customers around the world. Calumet processes crude oil and other feedstocks into customized lubricating oils, solvents and waxes used in consumer, industrial and automotive products; produces fuels including renewable diesel, renewable gasoline and is a leading producer of Sustainable Aviation Fuel (SAF) in North America; and provides oilfield services and products to customers throughout the United States.

Headquartered in Indianapolis, Indiana, over 1,600 team members operate at 12 specialty product manufacturing and production facilities across North America, producing 1,900+ unique products, which are available in more than 90 countries across the world, serving 2,400+ customers globally.

Calumet acquired Bel-Ray in December 2013 which is a part of the Performance Brands portfolio.

The NSF® categorizes food grade lubricants based on their potential contact with food, with H1* and 3H being key classifications.**

H1 Lubricants are designed for use when incidental, unavoidable food contact may occur, such as on machinery near food.

- Typically used in equipment and machinery such as on conveyor belts, pumps, and other parts of food processing machinery
- Meets NSF specific criteria for safety, including being odorless, non-toxic and non-reactive with food
- Allowed amount of lubricant that can be transferred to the food product is limited to a trace amount, often specified as 10 parts per million (10 ppm)

3H Lubricants are water-soluble oils, often edible oils, and biodegradable, used for rust prevention and cleaning on equipment.

- Typically applied to hooks, trolleys and similar equipment used in food processing
- Direct food contact is acceptable and does not need to be removed

Bel-Ray No-Tox products are NSF H1 and/or NSF 3H Registered, kosher and pareve approved and halal certified.

*NSF H1 = Incidental Food Contact

**NSF 3H = Direct Food Contact



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The Halal logo is a registered trademark of the Islamic Food and Nutrition Council of America (IFANCA).

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