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**Subject: Shelf Life of Bel-Ray Lubricants**

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The shelf life of any product can be affected by contamination, which can occur in various forms. Proper storage is of the utmost importance in preventing contamination. Lubricant containers should always be properly sealed. Indoor storage where temperature extremes are not encountered is most desirable. If stored outdoors, containers should be covered or placed in such a position that water contamination does not occur.

**Temperature:** High heat (greater than 45°C / 113°F) and extreme cold (less than -20°C / -4°F) can affect lubricant stability. Heat increases the rate of oil oxidation, which can lead to deposit formation and viscosity increase. Cold temperatures can cause wax and possible sediment formation. Additionally, alternating product exposure to heat and cold may draw air into drums, which may result in moisture contamination. A temperature range of -20°C / -4°F to 45°C / 113°F is acceptable for storing most lubricating oils and greases. Ideally, the storage temperature range should be from 0°C / 32°F to 25°C / 77°F.

**Light:** Exposure to light can change the color and appearance of lubricants. To prevent this change, keep lubricants in their original metal or plastic containers.

**Water:** Some lubricant additives may react with water, forming insoluble matter. Water can also promote microbial growth at the oil/water interface. Store lubricants in a dry location, preferably indoors.

**Particulate Contamination:** Do not store drums and pails in areas where there is a high level of airborne particles. This is especially important when storing a partially used container.

**Atmospheric Contamination:** Oxygen can react with lubricants and affect their viscosity and consistency. Keep lubricant containers sealed until the product is needed.

Grease properties may change during storage depending on thickener type, its concentration, the base fluids and the additives used.

**Oil Separation:** Oil naturally separates from most grease. Temperatures in excess of 45°C / 113°F can accelerate oil separation. If grease is removed from drums or pails,



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the surface of the remaining grease should be smoothed to prevent oil separation into the cavity.

The table below summarizes warranted shelf-life of Bel-Ray branded lubricants.

**Estimated Shelf Life of Bel-Ray Products (assuming proper storage)**

<b>Product</b>	<b>Years</b>	<b>Product</b>	<b>Years</b>
Lubricating Oils (Mineral)	3	Biodegradable Oils	3
Lubricating Oils (Synthetic)	3	Aerosol Products	3
Greases (Mineral or Synthetic)	3	Brake Fluids (unopened)	3

Please note that for the purposes of warranted shelf-life, anti-seize lubricants and other paste-type compounds are considered grease because of the similarity in manufacture and raw materials.