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## Patent Search

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| Invention Title         | LIQUID CRYSTAL BLENDED OCTYL ACRYLATE BASED BIODEGRADABLE LUBRICANT ADDITIVES  |
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### Abstract:

The present disclosure relates to a lubricant additive comprising a biodegradable oil; an octyl acrylate; and a liquid crystal (LC) dopant of formula (I) (I) The present disclosure relates to the method of preparing lubricant additive. Further, the present disclosure also relates to a lubricant composition.

### Complete Specification

#### Description:FIELD OF THE INVENTION

[0001] The present disclosure relates to a lubricant additive. In particular, relates to a lubricant additive comprising a biodegradable oil; an octyl acrylate; and a liquid crystal (LC) dopant of formula (I)

(I)

The present disclosure also relates to a method of preparing lubricant additives. The present disclosure also relates to a lubricant composition.

#### BACKGROUND OF THE INVENTION

[0002] Lubricants are essential for the overall functioning of mechanical systems and their various components. To combat the loss in energy of these systems due to friction, efficient lubricants are used. The origin of the term 'Tribology' can be traced back to the Greek word for rubbing, Tribos(Edward Arnold 1992). The study of tribological characteristics involves a thorough understanding of the interacting surfaces in relative motion and the parameters that influence them. These parameters include friction, wear, lubrication, surface science, and tribochemistry. This is of particular interest in the development of lubricants owing to their indispensable role like reducing friction and contact temperatures in machinery. Lubricants are essential for preventing wear and tear, increasing energy efficiency, and prolonging life in mechanical systems and their various components. The world energy crisis is ever-increasing and despite best efforts, it has been estimated that a significant portion of energy consumption is dissipated as friction. The development of efficient lubricants is of paramount relevance in terms of both scientific advancement as well as sustainability. Currently, the rapid growth in the global market for multifaceted lubricating applications is expected to continue and creatively developed tribological

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