Sulfurized Isobutylene (Ultra-low odor)

Sulfurized Isobutylene (Ultra-low odor) is an extreme-pressure (EP) additive belonging to the class of sulfurized isobutylenes (di-tert-butyl polysulfides).

It is an upgraded product developed from T321C, featuring a higher proportion of Tri sulfur species (S3), reduced odor, and improved copper corrosion performance.

Features

- **Excellent EP performance:**
  S_3 sulfur species ≥60%, over 10% higher than traditional T321C. Enhanced extreme-pressure capability allows reduced treat rates in additive packages.
- **Mild odor:**
  Lower proportions of S_1, S_2, and higher-order sulfur species result in a softer, less irritating odor, improving odor characteristics of blended additive packages and finished lubricants.
- **Lower corrosivity:**
  Reduced S_4 and higher sulfur species provide superior copper strip corrosion performance compared with T321C.
- **Broader application range:**
  Suitable for premium lubricants, including automotive gear oils, military/tank gear oils, industrial gear oils, and also applicable in metalworking fluids.

Packaging and Storage

Packaging:

Available in 200-L steel drums, 1000-L IBC containers, or 20,000-L tank containers.

Storage:

- It is recommended to use the product within one year after purchase.
- Store in a sealed container in a cool, dry, and well-ventilated area. Keep away from strong oxidizing agents.
- Protect from sunlight, rain, and severe vibration during transportation.

Technical Specifications and Test Methods

Item	Typical Value	Test Method
Appearance	Light yellow liquid	Visual inspection
Color	≤ 2	ASTM01500
Moisture % (v/v)	≤ 0.03	GB/T260-2016
Mechanical impurities, %	≤ 0.05	GB/T511-2010
Flash point (open cup), ℃	≥ 100	GB/T3536-2008
Kinematic viscosity (100℃), mm²/s	≤ 2.0	GB/T265
Density (20℃), kg/m³	980 - 1080	GB/T13377-2010
Oil solubility	Clear, no sediment	Visual inspection (1)
Sulfur content, % (m/m)	≤ 40 - 46	GB/T17040-2019[2]
Copper corrosion（121℃, 3h）	≤ 4a	GB/T5096[3]
Four-ball EP test, P_DRg（1500rpm）	≥ 500	GB/T3142[3]
Sulfur species analysis:		Gas Chromatography
S_2 and below, %	<15	
S_3, %	≥60	
S_4 and above, %	<30	

1、 After being thoroughly mixed at room temperature (20℃), the blend of 5% (m/m) GDT321L and 95% (m/m) base oil [60% (m/m) HVI150BS + 40% (m/m) HVI500] should appear clear and free from sediment upon visual inspection.
2、 The sulfur content in GDT321L can be determined using methods other than GB/T17040-2019 as well.
3、 5% (m/m) GDT321L + 95% (m/m) base oil [60% (m/m) HVI150BS + 40% (m/m) HVI500]

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