

# Polysulfides Evergreen Document

SME:  
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## NOT-REGULATED

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## PRODUCT DESCRIPTION

**The CP PolySulfides line is composed of the following sulfide series; 300, 400 and 500. The shelf life, relative stability and solubility of each series are listed below:**

300 Series, 400 Series, 500 Series

Shelf life: NONE

**Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Solubility:** Soluble in Hexane, white spirits. Insoluble in water.

**Distinguished Qualities:** Unique end-use properties, including:

- Low toxicity, odor and volatility

Mechanism of Action:

Polysulfides contain what is considered “labile sulfur”.

labile –adjective 1. apt or likely to change. 2. Chemistry. (of a compound) capable of changing state or becoming inactive when subjected to heat or radiation.

Sulfur atoms are released by the polysulfide molecule into the lubricant when subjected to heat and stress. This is both good and bad. The good: it is this sulfur that provides the EP/AW and lubricity benefits. The bad: free sulfur in the lubricant contributes to metal corrosion.

The solution: The higher the number of atoms in the “sulfur bridge”, the easier it is for the polysulfide to donate free sulfur. Therefore, the 500 series will have the most labile sulfur and the 300 series will have the least. For applications where lubricant will be continually added or where the exposure time is relatively short (drilling fluids, cutting fluids, 2 stroke engine oil), recommend 500 series. For applications with extended fluid life or closed system (brake fluid, hydraulic fluid, transmission fluid), recommend a 300 series product (if a formulator is trying to use a polysulfide and is having trouble passing a copper corrosion test, recommend the 320).

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## VALUE PROP SUMMARY

**All sulfur grades:**

Clear Appearance

Low Odor

Complete miscibility with paraffinic and naphthenic mineral oils.

Low toxicity and volatility

**400 Series:** Improve initial catalyst activity and lengthen production cycles for NiMo, CoMo, NiW, and CoW hydrotreating catalysts

**500 Series:**

Provide extreme pressure functionality with low copper corrosion.

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## PRICING

See quote module or ChemPoint.com for current pricing

Important to hold firm to ChemPoint list pricing. Collect and document competitive distribution sources and pricing → Email to MA.

Price increases may be the result of raw materials feedstock increases. Check Ethylene and Propylene prices.

TNPS – 537 – is also contingent on Nonlene

Di-t-butyl sulfide and di-t-butyl disulfide – is contingent on isobutylene

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## TURNOVER STRATEGY

\*\*\*INCOMPLETE – SEE SME

(i.e., matching old price, bringing to CP list price, converting to FOB, less than truckload bulk/drums is CP direct)

ChemPoint's distribution channel (i.e., CP will be handling orders for less than 4 drum quantities. Orders greater than 4 drums can go direct through supplier). **If CP is the sole channel, notate this**

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## FREIGHT/SHIPPING/PACKAGING/FULFILLMENT

Warehouse:

Package: Specs for totes and drums can be found under the spec folder. ; Drum: Steel;

Closed head

Class:

Returning totes: handled by the manufacturer – Schuetz. Customers need to call them directly.

This is the Schutz website for container return and recycling

[http://www.schuetz.de/locations/en/schuetz\\_container\\_systems\\_us/schuetz\\_container\\_systems/collection\\_recycling/index.phtml](http://www.schuetz.de/locations/en/schuetz_container_systems_us/schuetz_container_systems/collection_recycling/index.phtml)

see additional documents under misc, tote recycling.

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## COMPETITIVE INFORMATION

- Arkema – TPS 20, 32, 37LS, 44

- Dover – Mayco Base 1536, 1540
- Rhein Chemie – Additin
- Costal Refining is part of Brenntag that sells Lubrizol Sulfurzol which is our equivalent to 454.

<..\Competitives\Polysulfide Competitive Cross Ref.xls>

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## CHANNELS TO MARKET

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### APPLICATIONS

- Automotive lubricants
  - o Diesel Engine Oil: As sulfur standards continue to get reduced in diesel fuel, the lubrication demands for diesel engine motor oil may be heightened as the sulfur in the fuel may have provided some benefits. Formulators may be looking to replace the sulfur in lubricants by adding additives such as polysulfides, provided these do not contribute to SO<sub>2</sub> emissions.
- Automotive Test fuels –
  - o Di-t-Butyl DiSulfide - Used as a component in spec fuels used to test catalytic converters. Increased sulfur content challenges automotive systems (gums up). *Sunoco Performance Products - Blend Plant (ID:264510) TVaughan 4/2008*
- Industrial Engine oils
- Metalworking fluids
- General Industrial Lubricants
- Greases
- Lubricant Additives & Packages

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### REGULATORY INFORMATION

Not Regulated

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### SUPPLIER CONTACT INFORMATION

Technical Contacts: Dr. Ken Inkrott – (832-813-4856) – [inkroke@cpchem.com](mailto:inkroke@cpchem.com)

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### MISCELLANEOUS

Facts that may be asked by customer: