

FUNCTIONAL PRODUCTS INC.

Innovative Chemistry for Lubricants

Technical Data Sheet

FUNCTIONAL Q-249

Quench Additive for Straight Oil Fluids

APPLICATION:

FUNCTIONAL Q-249 is a quench fluid additive package for straight oils. **FUNCTIONAL Q-249** is designed to create both normal and medium quench rate fluids in API Group I or API Group II base oils.

FUNCTIONAL V-731 is recommended as a quench accelerator for use with **FUNCTIONAL Q-249**.

COMPOSITION:

FUNCTIONAL Q-249 is a blend of antioxidant, quench accelerant, and anti-tarnish agents in oil.

Typical Properties	
Appearance	Dark Amber
KV 100 (ASTM D445)	100 cSt
KV 40 (ASTM D445)	3,000 cSt
Lbs. per Gallon	7.9
Flash Point (ASTM D92)	>200 C/392 F

TREATMENT LEVEL:

Treat rates of 2-3% are recommended. Medium quench oils may require use with up to 1% quench accelerator.

HANDLING:

Store in a cool, dry area. See current Safety Data Sheet before use.

FUNCTIONAL Q-249 is hazard-free after dilution at recommended treat rates in base oil.

This Technical Data Sheet and the Safety Data Sheet contain information believed to be accurate and reliable. No warranty is made, however, to information beyond the control of FUNCTIONAL PRODUCTS INC. The engineering and management personnel of the user are responsible for determining the suitability of this or any product for any specific application, and this information is offered to them for that purpose.

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FORMULATION GUIDE:

- **Quench Oil Classifications:**
 - Fast = 7-9 GMQS
 - Medium = 10-13 GMQS
 - Normal = 14-16+ GMQS
- **FUNCTIONAL Q-249** is suggested for use with 1% accelerator to achieve medium quench speed.

Medium Quench Oil using **FUNCTIONAL Q-249** in 70N API Group II

Typical Performance in 70N Gr. II	
Quenchometer, ASTM D3520	10.9 GMQS
Quenchalyzer, ASTM D6200	
-Maximum Cooling Rate	91 C/sec
-Temperature at Max Rate	588 C
-Time to 600C	9.0 sec
-Time to 400C	12.25 sec
-Time to 200C	43.4 sec
Oxidation Induction Time, ASTM D6186	82 min
Conradson Carbon Residue, ASTM D189	0.13%

Formula by wt%	Wt%
70N Gr. II	96.0
FUNCTIONAL Q-249	3.0
FUNCTIONAL V-731	1.0

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