



SHELL GARIA[®] OILS 631S AND 632S

Dark colored, active sulfur, heavy duty cutting oils

Product Description

Shell Garia[®] Oils 631S-32 and Shell Garia[®] 632S-46 lubricants are dark colored, heavy-duty, active sulfur cutting oils designed for tough machining operations such as threading, tapping, and broaching on metals and alloys with low machinability ratings.

Shell Garia[®] 631S-32 and Shell Garia[®] 632S-46 lubricants are dark, active sulfur, heavy duty cutting oils formulated using severely hydroprocessed base stocks with a naturally high viscosity indices. Shell Garia[®] 631S-32 and Shell Garia[®] 632S-46 lubricants contain highly effective extreme pressure and lubricity additives that help extend tool life, and prevent welding of chip-to-tool. They are also effective at providing rust and corrosion protection of the parts, the cutting tools, and the machine. Shell Garia[®] 631S-32 and Shell Garia[®] 632S-46 cutting oils possess excellent anti-wear and anti-weld properties to minimize tool wear and help to minimize machine down time. Shell Garia[®] 631S-32 and Shell Garia[®] 632S-46 lubricants are chlorine-free products which may be used to machine metals where chlorine containing products must be avoided.

Shell Garia[®] 631S-32 and Shell Garia[®] 632S-46 cutting oils possess a high level of extreme pressure and antiweld properties of the cutting oils. Shell Garia[®] 631S-32 and Shell Garia[®] 632S-46 are suited for machining of ferrous alloys with machinability ratings below 70% and difficult operations such as tapping, broaching, pipe threading, gear manufacture, deep hole drilling, and form grinding. The more viscous Shell Garia[®] 632S-46 contains a higher level of fatty oil to provide good surface finishes even in severe operations. Shell Garia[®] 632S-46 may also be used to fortify other cutting oils where a variety of work is to be done. Shell Garia[®] 631S-32 and Shell Garia[®] 632S-46 lubricants products may also be used in metal drawing and stamping operations on a variety of difficult to machine metals and alloys. Both lubricants contain active sulfur which can stain copper and its alloys and should not be used to machine these metals.

Shell Garia[®] 631S-32 and Shell Garia[®] 632S-46 should not be used on copper and its alloys if staining is a concern.

Applications

- broaching
- tapping
- threading
- form grinding
- deep hole drilling

Features/Benefits

- excellent lubricity and extreme pressure properties
- chip to tool welding (built up edge) minimization
- promotes long tool life
- excellent surface finish
- corrosion/rust protection of part and machine

Typical Properties of Shell Garia® Oils 631S-32 and Shell Garia® 632S-46			
	Test Method	631S-32	632S-46
Product Code			
55 gallon drum		6104000055	6104100055
5 gallon pail		6104005203	6104105203
Appearance		Black Liquid	Black Liquid
Odor		Compounded	Compounded
Gravity, °API	D 1298	30.2	27.8
Viscosity:			
@ 40°C, cSt	D 445	32.6	46.7
@ 100°C, cSt	D 445	5.5	7.1
@ 100°F, SUS	D 88	168.1	240.3
@ 212°F, SUS	D 88	44.7	50.0
Viscosity Index	D 2270	104	110
Flash Point, COC, °F	D 92	390	395
Pour Point, °F	D 97	0	10
Rust Test, Distilled Water	D 665A	Pass	Pass
Four-Ball EP	D 2783		
Load Wear Index, kgf		107	118+
Weld Point, kgf		620+	620+
Sulfur		Present	Present
Chlorine		None	None
Phosphorus		None	Present
Fatty Oil		Present	Present

Handling & Safety Information

For information on the safe handling and use of this product, refer to its Material Safety Data Sheet <http://www.shell-lubricants.com/msds/>. If you are a Shell Distributor, please call **1+800-468-6457** for all of your service needs. All other customers, please call **1+800-840-5737** for all of your service needs. Information is also available on the World Wide Web: <http://www.shell-lubricants.com/>.