

# Shell GARIA® 405 M-22 and M-32

## Neat cutting oil

Shell GARIA® 405 M-22 and M-32 are neat cutting oils for general machining on automatic lathes, gear hobbing and on thread- or tooth-flank grinding machines.

### Performance Features and Benefits

Shell GARIA® 405 M-22 and M-32 are based on hydro treated mineral oils with a low aromatic content. Combinations of polar, extreme pressure and anti wear additives provide the oils with high load carrying properties. The oils provide good tool life and good surface finish of the machined work pieces. High efficient anti mist additives reduce the mist load in the air.

Due to the active sulfur in the Shell GARIA® 405 M-22 and M-32 there is a risk of staining of yellow metals. Shell GARIA® 405 M-22 and M-32 are free of chlorine and heavy metals.

### Main Applications

Shell GARIA® 405 M-22 and M-32 are neat cutting oils for general machining and particularly for working on middle to high resistance alloyed and low carbon steels and aluminum or magnesium alloys.

Advice on applications not covered in this handbook may be obtained from your Shell representative.

### Handling and Safety Information

For information on the safe handling, storage, or use of this product, refer to its Material Safety Data Sheet at <http://www.epc.shell.com/>. If you are a Shell Distributor, please call 1+800-332-6457 for all of your service needs. All other customers please call 1+800-237-8645 for all of your service needs.

### Protect the Environment

Do not discharge into drains, soil, or water.

### Typical Physical Characteristics

Shell GARIA® 405		M-22	M-32
Appearance		Yellow	Yellow
Kinematic viscosity			
@ 40 °C	cSt (ASTM D 7042)	22	32
Density @ 20 °C	kg/m <sup>3</sup> (DIN EN ISO 12185)	865	875
Flash Point COC	°C (DIN EN ISO 2592)	190	200
Cu-Corrosion Test	Alfa (ASTM D 130)	4a	4a

*These characteristics are typical of current production. While future production will conform to Shell specifications, variation in these characteristics may occur.*