## METAL WORKING

## Chlorine-free Cutting Oil for Severe Machining.

## APPLICATIONS

- VALONA 1046 S is a chlorine-free, neat cutting and grinding oil ONLY dedicated to ferrous metals.
- VALONA 1046 S is used on all cutting operations on all ferrous and ferrous alloy metals: turning, shaping, milling, grinding. NOT TO BE USED on copper alloy metals (stain risk on workpieces after cutting operations).
- Operations include: severe machining such as wire drawing, broaching, drilling, turning, screw cutting, boring, milling, threading, reaming, tapping, and grinding.


## ADVANTAGES

- Very good extreme pressure performance due to the addition of active sulfur.
- Increases tool life, prevents ridging, promotes good surface finish.
- Excellent lubricity properties--Increases the tool life on a large scale of cutting parameters maintaining an additive layer on the chip / workpiece / tool surface.
- Outstanding oxidation resistance.
- No chlorine means lower disposal costs.
- Low mist oil formation.
- Permits operator surveillance of the workpiece at all times.
- Light viscosity means good flushing ability.

| TYPICAL CHARACTERISTICS | VALONA 1046 S |
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| Appearance | Clear Light Amber Liquid |
| Color, ASTM D-1500 | 2.0 |
| Viscosity at $40^{\circ} \mathrm{C}, \mathrm{cSt}$ | $20.0-24.0$ |
| Density @ $60^{\circ} \mathrm{F}, \mathrm{lbs} . / \mathrm{gal}$. | 7.39 |
| Specific Gravity @ $60 / 60^{\circ} \mathrm{F}$ | 0.886 |
| Flash Point, COC, ${ }^{\circ} \mathrm{F}$ | 355 |
| Copper Strip Corrosion | 4 C |
| Sulfur, \%wt. | 2.7 |
| Active Sulfur, \%wt. | 1.9 |
| Lubricity Content, \% | 5.0 |
| Phosphorus, ppm | Nil |
| Chlorine, \%wt. | Nil |

IOTAL Lubricants USA. Inc.

