# Valona ST 9013

## DESCRIPTION

Chlorine-free neat cutting oil designed for very hard machining operations on ferrous metals.

## APPLICATIONS

- **VALONA ST 9013** is with specific additives especially suitable for all difficult machining operations on ferrous metals.
- **VALONA ST 9013** is more particularly suitable for machining operations on carbon steels, high alloy steels and stainless steels.
- **VALONA ST 9013** must only be used on ferrous metals. Currently lubricated operations:
  - stainless steel free cutting,
  - drilling, boring, reaming of alloy and stainless steels,
  - gear cutting and shaving,
  - high-speed broaching.

## ADVANTAGES

This product is formulated from a premium base stock and provide many advantages:

- **Excellent anti-wear and extreme pressure performance:**
  - The nature of its compounding gives it excellent machining performances that result in an excellent surface finish and ensures that dimensions and tolerances are respected.
  - Increases the tool lifetime.
  - Prevents the formation of built-up edges. (Improves productivity and production costs).
- **Excellent anti mist and antifoam properties.**
- **Outstanding oxidation resistance.**

This lubricant used as recommended and for the application for which it has been designed does not present any particular risk. A material safety data sheet conforming to the regulations in use in the E.C. can be obtained from your local commercial advisor or downloaded at ms-sds.totalenergies.com

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# TYPICAL CHARACTERISTICS

| Typical characteristics | Methods | Units | Valona ST 9013 |
|---|---|---|---|
| Appearance | - | - | Clear liquid |
| Color | ISO 2049 | 0 to 8 | 5 (dark brown) |
| Odor | - | - | Slight |
| Density | ISO 3675 | kg/m3 | 857 |
| Kinematic viscosity at 40°C | ISO 3104 | mm2/s | 13 |
| Copper corrosion | ISO 2160 | - | 4b |

Above characteristics are mean values given as an information.

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