



## Product Data

# Castrol CareCut ES 3

High performance neat cutting oil

## Description

Castrol CareCut™ ES 3 is low viscosity, chlorine and heavy metal free neat cutting oil based on advanced biodegradable ester technology. It is especially formulated with superior ashless boundary lubrication additives to optimise machining performance, enhance surface finish and lower the overall operating costs.

It can be used in single sump machines and large central systems.

## Application

CareCut ES 3 is designed for severe honing and superfinishing of ferrous and non ferrous materials. It can also be used for grinding applications, drilling and general machining of aluminium, yellow metals, cast iron and medium alloyed steel.

CareCut ES 3 can also be used for hard metal as well as tool grinding.

CareCut ES 3 does not contain active sulphur and is hence compatible with yellow metals.

|                             | Cast Iron | Low-medium alloyed steel | High alloyed steel / stainless steel | Titanium alloys | Aluminum alloys | Yellow Metals |
|-----------------------------|-----------|--------------------------|--------------------------------------|-----------------|-----------------|---------------|
| Honing / Super finishing    | √√√       | √√√                      | √√                                   | √               | √√√             | √√√           |
| Grinding                    | √√√       | √√√                      | √√                                   | √               | √√√             | √√√           |
| Drilling                    |           |                          |                                      | √√              | √√              | √√            |
| Broaching/ Gear Manufacture |           |                          |                                      |                 |                 |               |
| General Machining           | √         | √                        |                                      |                 | √               | √             |

√√√ core application representative

√√ recommended application

√ suggested application, please consult Castrol

## Advantages

- Excellent flushing and lubrication properties extend honing stone life and enable high surface finish and dimensional accuracy.
- Low viscosity and excellent wetting properties reduce drag out and results in lower product usage.
- Good filtering characteristics and high oxidation stability help increase product lifetime .
- Our chlorine, mineral oil and heavy metal-free formulation, based on advanced biodegradable ester technology improves the environmental profile and can help reduce disposal costs.
- High flashpoint, low odor, light color and low mist qualities improve the work environment.
- Multi-metal machining using our superior additive technology provides opportunity for product consolidation.

## Typical Characteristics

| Name               | Method          | Units | CareCut ES 3        |
|--------------------|-----------------|-------|---------------------|
| Appearance         | Visual          | -     | Clear Yellow Liquid |
| Viscosity at 40°C  | DIN EN ISO 3104 | mm²/s | 5.5                 |
| Viscosity at 100°F | ASTM D 445      | SUS   | 46                  |

| Name                           | Method                   | Units             | CareCut ES 3 |
|--------------------------------|--------------------------|-------------------|--------------|
| Density at 15°C                | DIN 51757<br>ASTM D 1298 | kg/m <sup>3</sup> | 864          |
|                                | Calculated               | lbs/gal           | 7.19         |
| Flash Point ,COC               | DIN 51376                | °C                | >160         |
|                                | ASTM D 92                | °F                | > 320        |
| Copper Corrosion, 3hr at 100°C | DIN 51811<br>ASTM D 130  | -                 | 1b           |

## Additional Information

|           | Ester | Active sulphur | Inactive sulphur | Phosphorous | Calcium | Chlorine | Zinc |
|-----------|-------|----------------|------------------|-------------|---------|----------|------|
| Additives | √     |                |                  |             |         |          |      |

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Castrol Industrial, Technology Centre , Whitchurch Hill , Pangbourne , Reading , RG8 7QR , United Kingdom

<http://msdspdscastrol.com>