

# SERVO<sup>®</sup> PRODUCT DATA SHEET

## SERVOCUT 51

IndianOil

### GRADES AVAILABLE – SERVO CUT 51

#### DESCRIPTION

Servocut 51 is a non-staining neat cutting oil. This oil has been specially developed for those engineering industries which are involved in carrying out a large number of repetitive machining operations of less severe nature. Servocut 51 is blended from high viscosity index base oils and fatty material, which impart free flowing and good heat dissipation properties to the oils. The product also contains a deodorant.

#### PERFORMANCE BENEFITS

- Provides effective heat dissipation during machining operations and assists in avoiding metal distortion
- Does not stain the components
- Maintains its light colour during operations and hence the components remain visible during machining
- Can be used for machining ferrous and non-ferrous metals
- Gives no obnoxious odour
- Provides good surface finish

#### APPLICATION

Servocut 51 is an excellent metal working oil, particularly for machining operations on automatics, where intense heat is generated at work- piece/tool interface, due to high spindle speeds and short cycle time. It is necessary to dissipate this frictional heat, as quickly as possible, so that fuming of oil or distortion of metal component is avoided.

Servocut 51 is non-staining and hence it can be used while machining copper brass, or alloys containing zinc. It is also suitable for operations on free cutting and mild steels, particularly on screw automatics, capstan or turret lathes.

#### PERFORMANCE STANDARDS

Servocut 51 meets

IS:3065-1985 specification for cutting oil, neat Type 1 grade 2 (Reaffirmed 1990)

### CHARACTERISTICS

Kinematic Viscosity, cSt @ 40°C	20 - 24
Flash Point (COC), °C Min	160
Pour Point, °C Max.	0
Copper Strip Corrosion, @ 100°C, 3hrs, Max	1

### HEALTH & SAFETY

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

For further information please contact our nearest office OR:

Technical Services Dept., Indian Oil Corporation Ltd., G-9, Ali Yavar Jung Marg, Bandra (East), Mumbai – 400 051

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# **SERVO**® **PRODUCT DATA SHEET**

## **SERVOCUT 151**

**IndianOil**

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### **GRADES AVAILABLE – SERVO CUT 151**

#### **DESCRIPTION**

Servocut 151 is a superior quality neat cutting oil developed for general duty machining operations. This product is blended from high viscosity index base stocks and contain chlorinated fatty material, which provide distinct advantages to the use of this oil.

#### **PERFORMANCE BENEFITS**

- Can be used for both ferrous and non-ferrous metals
- Has EP properties which improve machinability
- Can be used for variety of cutting operation
- Is also suitable for machine tool lubrication

#### **APPLICATION**

Servocut 151 is recommended for a variety of machining operations on both ferrous and non-ferrous metals. It is also suitable for automatic and multi-tool lathes handling high tensile steels. It can be used for such specialised applications as thread-grinding, form-grinding and milling set-ups using multiple cutters. The use of this cutting oil provides improved machinability without the risk of discolouration of components and avoids premature regrinding of cutting tools.

Under selected conditions of speed and load, it can be used for machine tool lubrication also.

### **CHARACTERISTICS**

<b>Kinematic Viscosity, cSt</b>	<b>20 – 24</b>
<b>Flash Point (COC), °C Min.</b>	<b>160</b>
<b>Pour Point, °C Max.</b>	<b>0</b>
<b>Fats</b>	<b>Present</b>
<b>Chlorine Compounds</b>	<b>Present</b>
<b>Copper Strip Corrosion @ 100°C, 3 hrs, Max</b>	<b>1</b>

### **HEALTH & SAFETY**

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

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# SERVO<sup>®</sup> PRODUCT DATA SHEET

## SERVOCUT 253

IndianOil

### GRADES AVAILABLE – SERVO CUT 253

#### DESCRIPTION

Servocut 253 is specially formulated product to be used for deep hole boring and trepanning operations, where pressurised coolant system is employed for easy swarf removal.

Servocut 253 is based on carefully selected high viscosity index base oils and contains special fatty material and active sulphur in solution. The product has pleasant red colour.

#### PERFORMANCE BENEFITS

- Helps in continuous accurate cutting in long work cycle operation
- Has minimum mist forming tendency when used in high pressure coolant feed systems
- Provided effective cooling and flushing necessary in deep hole drilling operations
- Ensures good surface finish
- Optimizes filter life due to low sludging tendency at operating temperature
- Gives better tool life

#### APPLICATION

Servocut 253 is recommended for:

- Deep hole drilling including gun drilling operations
- Trepanning operations
- Boring operations

This product is not recommended for operation on non-ferrous metals.

### CHARACTERISTICS

Kinematic Viscosity, cSt @ 40°C	9.5 – 11.5
Flash Point (COC), °C Min.	135
Pour Point, °C Max.	0
Copper Strip Corrosion, @ 100 °C, 3 hrs., Max	4

### HEALTH & SAFETY

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

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# SERVO<sup>®</sup> PRODUCT DATA SHEET

## SERVOCUT 335 & 345

IndianOil

### GRADES AVAILABLE – SERVO CUT 335/345

#### DESCRIPTION

Servocut 335 and 345 are chlorinated inactive type cutting oils containing additives to impart oiliness and EP properties. Chlorine and non-corrosive sulphurised fat is incorporated to provide anti-weld, extreme pressure and oiliness characteristics to these oils and hence these grades give excellent performance over a wide range of temperatures.

#### PERFORMANCE BENEFITS

- ✘ Minimise welding of the chip to the cutting tool.
- ✘ Help retain sharpness of the cutting edge and reduce stress at the cutting point.
- ✘ Reduce friction between chip and tool face thus generate less heat
- ✘ Do not stain non-ferrous metals
- ✘ Can be used as a hydraulic and general purpose lubricating oils in case cross leakages occur.

#### APPLICATION

Servocut 335 & 345 oils are recommended for:

- ✘ All machining operations on non-ferrous metals.
- ✘ Machining of ferrous metals where the severity of operation is not high.

Addition of chlorine enables the use of these oils for extreme pressure – low/moderate temperature cutting operations where feed rates are high but speeds are low.

These operations include gear hobbing, screw cutting, tapping, milling, reaming etc.

### CHARACTERISTICS

GRADE	335	345
Kinematic Viscosity, cSt @ 40°C	31 – 35	40 - 44
Flash Point (COC), °C Min.	160	180
Pour Point, °C Max.	0	0
Copper Strip Corrosion, @ 100 °C, 3 hrs, Max	1	1

### HEALTH & SAFETY

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# SERVO<sup>®</sup> PRODUCT DATA SHEET

## SERVOCUT 353

IndianOil

### GRADES AVAILABLE – SERVOCUT 353

#### DESCRIPTION

Servocut 353 is a low viscosity sulphur-chlorinated type cutting oil. Its selected additives impart marked antiweld properties, which helps machining of intricate shapes with high precision. Being a low viscosity product it has excellent cooling and quick swarf removal characteristics.

#### PERFORMANCE BENEFITS

- ☞ Caters for more arduous machining of tough ferrous and ferrous alloys.
- ☞ Gives high precision on long work cycle operations.
- ☞ Provides effective flushing of fine swarf.
- ☞ Ensures faster cooling of tool and work piece.
- ☞ Has minimum rust forming tendency when use in high pressure coolant feed systems.
- ☞ Has minimum misting tendency when use in high pressure coolant feed systems.
- ☞ Assists in achieving high rate of production.
- ☞ Has low sludging tendency to give optimum filter life.
- ☞ Helps achieve longer tool life.

#### APPLICATION

Servocut 353 is recommended for deep hole boring and deep hole drilling of ferrous and ferrous alloys. It gives excellent finish, because of balanced combination of fat, chlorine and active sulphur, under continuous and long work cycle. It is also suitable for certain honing operations.

This product is not recommended for machining of non-ferrous metals.

### CHARACTERISTICS

Kinematic Viscosity, cSt @ 40°C	12 – 14
Flash Point (COC), °C Min.	135
Pour Point, °C Max.	0
Copper strip corrosion @ 100°C, 3 Hrs, Max	4

### HEALTH & SAFETY

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

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# SERVO<sup>®</sup> PRODUCT DATA SHEET

## SERVOCUT 945 & 945A

IndianOil

### GRADES AVAILABLE – SERVO CUT 945, 945 A

#### DESCRIPTION

Servocut 945 & 945 A are active type neat cutting oils and 945 A contains higher dosage of sulphurised fats. These oils contain a sulphurised fatty material, which improves oiliness property thus providing better surface finish.

Sulphur incorporated in these oils become chemically active at the tool-work piece-chip interface and ensures protection to the cutting tool over a wide range of operating temperatures.

#### PERFORMANCE BENEFITS

- Provides continuous protection to tool edges over a wide range of operating temperatures.
- Helps in improved surface finish due to the added oiliness property.
- Enables machining of tough, ductile steels in severe operations.
- Prevents localised welding between the chip and tool.
- Keeps at minimum, oil drag-out losses on components and swarf.

#### APPLICATION

Servocut 945 and 945 A are recommended for most of the cutting operations on ferrous metals under severe operating conditions, which demand high degree of chemical activity in oils. This oil is suitable for machining operations on high tensile stainless steel as well as Ni-Cr alloys by automatics, gear cutting, hobbing, drilling, reaming and thread cutting machines. To obtain best results with the use of this product, it is necessary that a copious flow of oil at low pressure is maintained at the cutting area.

The use of Servocut 945/945 A for cutting operation on non-ferrous metals and its contact with soft metal bushes in machines should be avoided.

#### PERFORMANCE STANDARDS

- Meets IS : 3065-1985 (Reaffirmed 1995) Type III Grade 2.

### CHARACTERISTICS

	Servocut 945 & 945 A
Kinematic Viscosity, cSt @ 40°C	28 - 34
Flash Point (COC), °C Min.	160
Pour Point, °C Max	0
Copper strip corrosion, @ 100°C, 3 hrs, Max	4
Saponification No.	18 (only 945 A)

### HEALTH & SAFETY

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

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