

Hard-Cut® 5318 / 5418 / 5518 *Straight Cutting Oils*

FEATURES

- High Content of Extreme Pressure Additive
- Maximizes Productivity
- Maximizes Speeds and Feeds
- Maximizes Tool Life
- Non-Hazardous
- Non-Toxic
- Solvent Free
- Wide Variety of Viscosities

GENERAL DESCRIPTION

The Hard-Cut "8" series represents the third generation of performance above the traditional Hard-Cut oils. The "8" signifies a two fold increase of the synthetic fraction in the product. The Hard-Cuts are the first choice by the aerospace, electronic and medical industries, especially in Swiss style screw machines.

The Hard-Cut "8" series is highly recommended for use on stainless steels, hardened steels, high nickel alloys, titanium and aircraft aluminums. The Hard-Cuts are formulated in various viscosities and with various levels of Extreme Pressure (EP) additives. High quality raw materials help provide for both an operator friendly and environmentally compliant product. Reduced smoke, cleaner machines, low odor and non-irritating are just some of the benefits. As with all of Hangsterfer's Hard-Cuts, they are non-toxic and non-corrosive.

APPLICATIONS

Primary			Secondary	
Broaching	Gear Cutting	Sawing	Burnishing	Honing
Cutting	Gun Drilling	Stamping	Coining	Punching
Drilling	Milling	Tapping	Drawing	Shaving
Fine Blanking	Reaming	Turning	Forming	Swedging

MATERIALS

Primary		Secondary	
Aluminum	High Temperature Alloys	Bronze	Magnesium
Armor Plate	Nickel Alloys	Iron, Cast Iron, Ductile	Plastic
Brass, Lead Free	Stainless Steel	Ceramics	Powdered Metals
Chromium Alloys	Titanium	Copper	Tungstem

INSTRUCTIONS

Hard-Cut 8 series is normally used where any cutting oil is used as is and on most materials. The wide range of viscosity allows use as a bar feed oil to eliminate contamination of the cutting oil. The Ozonics 203 or VS-315 is recommended to clean Hard-Cut 8 series at the machine in process or as a final utility clean. The Ozoincs and VS product can be mixed back in to the Hard-Cut products as they become saturated. Please see the Ozoincs and VS brochures for the recommended procedures. The Hard Cut 8 series is also used to thin the Aldraw products.

MAINTENANCE & CLEANING

Maintenance: While straight cutting oils are not susceptible to the broad range of problems encountered with a water based fluid, regular maintenance does improve their performance and extend their life. The Hard-Cut oils are designed to reject foreign contaminants, such as metal fines. If the performance of the oil begins to deteriorate, remove the oil from the machine and allow to settle in an empty drum or settling tank for 3-7 days. Fines and contaminants will settle to the bottom. After settling, return the top 80% to the clean machine. In order to get the maximum life from your oil, keep the sump free of cleaners, solvents, rust inhibitors, coolants and other contaminants which may inhibit performance.

Cleaning: All Hard-Cut oils are formulated to minimize cleaning time. They are cleanable in both aqueous and solvent systems. For best results use a Hangsterfer's Ozonic series cleaner or recommended aqueous cleaner. Both style cleaners work best at removing Hard-Cuts when heated to 140°F (60°C).

PRODUCT CHARACTERISTICS

Product:	Hard-Cut 5318	Hard-Cut 5418	Hard-Cut 5518
Form	Liquid	Liquid	Liquid
Color	Red	Red	Red
Odor	Mild	Mild	Mild
Specific Gravity	0.96	0.93	0.91
Viscosity: SUS @ 100°F	210	159	90
cSt @ 40°C	45	34	18
Flash Point, COC, °F/°C	369 / 187	350 / 176	250 / 121
Fire Point, COC, °F/°C	380 / 193	370 / 187	260 / 126
Pour Point, °F/°C	<0 / -18	<0 / -18	<0 / -18
Solubility in Water	<0.01%	<0.01%	<0.01%
Boiling Point, °F/°C	400 / 204	440 / 226	420 / 215
Vapor Pressure, mm Hg @ 25°	<0.01	<0.01	<0.01
pH @ 10%	N/A	N/A	N/A
Chlorine	Added as EP Additive	Added as EP Additive	Added as EP Additive

WASTE TREATMENT

Dispose of in accordance with local, state, federal and international laws. As with most used oils, they can be re-refined or used in energy recovery systems.

SHIPPING UNITS

All Hangsterfer's products are available in 5 gallon, 55 gallon and Intermediate Bulk Containers (275 or 330 gallons). All products are distributed worldwide.

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