

## Hard-Cut® NG / NG CF / NG 15 / NG 22 / NG 22 CF *(Straight Cutting Oils)*

### FEATURES

- Excellent Machinability
- Excellent for High Pressure Systems
- High Purity Base Oil
- Maximizes Tool Life
- Non-Irritating
- Non-Toxic
- Low Residue
- Very High Flashpoint

### GENERAL DESCRIPTION

The **Hard-Cut NG series** are the Next Generation®, hence “NG”, in a full line of straight oils developed, manufactured, and offered by Hangsterfer's. This series allows Precision Swiss Automatics to perform at maximum speeds and feeds: performing particularly well in high pressure or through-drill tooling systems, without foam.

The **Hard-Cut NG Series** are formulated with a combination of high purity Synthetic and Vegetable-based oils to provide a very high flash point cutting oil, reducing oxidation, and extending the lifetime of your sump.

Capable of handling the most demanding materials, with unmatched tool life, part finish, and reduced chip drag-off, Hangsterfer's **Hard-Cut NG Series** simply can't be beat!

GHS Compliant, Pictogram Free, and Zero Animal Fats, make this series particularly popular in the medical industry.

### APPLICATIONS

Primary			Secondary
Cutting	Gun Drilling	Reaming	Broaching
Gear Cutting	Honing	Thread Cutting	Sawing
Grinding	Milling	Turning	Stamping

### MATERIALS

Primary		Secondary	
Aluminum	Stainless Steel	Brass	Magnesium
Chromium	Steel	Composites	Powdered Metals
Nickel	Titanium	Copper	Precious Metals

### INSTRUCTIONS

All **Hard-Cut NG Series** products should be used as is from the drum. Ozonic 203 and VS-315 are recommended to clean the **Hard-Cut NG Series** at the machine, in process, or mixed back in to the Hard-Cut products as they become saturated. Refer to the Ozonic and VS brochures for the recommended procedures.

## MAINTENANCE

**Maintenance:** To maximum the life of your oil, keep the sump free of cleaners, solvents, rust inhibitors, coolants and other contaminants. The **Hard-Cut NG Series** is designed to reject foreign contaminants, such as metal fines. If the performance of the oil begins to deteriorate, remove it from the machine, allowing fines and contaminants to settle in an empty drum or settling tank for 3-7 days. After settling, return the top 80% to the clean machine.

**Cleaning:** Hangsterfer's products are formulated to be cleaned in Aqueous, Semi-Aqueous, and Solvent based cleaning systems. Depending on the required level of cleanliness, one or more cleaning systems might be required. Hangsterfer's neutral pH "Clean All" (Aqueous) and "Ozonic 203" (Solvent) can be used separately or part of a multistep cleaning system. Cleaning systems agitation, pressure, ultrasonic, time, and temperature greatly aid the efficiency.

## PRODUCT CHARACTERISTICS

Product Name:	Hard-Cut NG	Hard-Cut NG CF	Hard-Cut NG 15	Hard-Cut NG 22	Hard-Cut NG 22 CF
Form	Liquid	Liquid	Liquid	Liquid	Liquid
Color	Red	Amber	Red	Red	Red
Odor	Mild	Mild	Mild	Mild	Mild
Specific Gravity	0.84 - 0.86	0.85 - 0.88	0.86 - 0.88	0.89 - 0.91	0.87 - 0.89
Viscosity: SUS @ 100°F	52 - 70	58 - 74	69 - 86	89 - 115	85 - 111
cSt @ 40°C	8 - 13	10 - 14	13 - 17	18 - 24	17 - 23
Flash Point, COC, °F/°C	335 / 168	349 / 165	355 / 179	405 / 207	Non-Flammable
Fire Point, COC, °F/°C	N/A	N/A	N/A	N/A	N/A
Solubility in Water	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorine	Yes	No	Yes	Yes	No
Sulfur	No	No	No	No	No

## WASTE TREATMENT

While Hangsterfer's oils resist contamination and degradation, contamination may require the oil to be disposed. In the normal use of oils, tramp oils enter the system that may change the disposal procedures. Some Hangsterfer's oils contain very long chain chlorinated paraffins that may be disposed of as non-hazardous if properly noted. Dispose of in accordance with local, state, federal and international laws. As with most used cutting oils, they can be refined or used in energy recovery systems.

## SHIPPING UNITS

All Hangsterfer's products are available in pails, drums and Intermediate Bulk Containers (275 gallons). All products are distributed worldwide.

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Disclaimer: All reasonable care has been taken to ensure that the information contained in this publication is true and accurate. No warranty is expressed or implied regarding the accuracy of the data. The general description, recommended uses, application data and statements in the product literature are guidelines. Because this product may be used for a variety of applications over which Hangsterfer's Laboratories, Inc. has no control, Hangsterfer's Laboratories, Inc. assumes no liability for incidental, consequential, or direct damages of any kind, regardless of causes, including negligence. Also, seller is not liable for any loss, damage or liability resulting from the use of the product in the buyer's manufacturing processes or in combination with other substances. SDS's are available for all Hangsterfer's products and should be consulted as needed.

