BRIGHT-CUT® METALWORKING FLUIDS

NHG, NM, AM, AH, AXH

PRODUCT DESCRIPTION

Bright-Cut® Metalworking Fluids are chlorine-free cutting oils for use in machining operations.

CUSTOMER BENEFITS

Bright-Cut Metalworking Fluids deliver value through:

- **Excellent antiweld performance, optimal tool life and exceptional surface finish** without chlorine and with minimal amounts of sulfur and fat.
- **Clear, light color** allows operator to see the machined part during the cutting operation.
- **Minimal odor** — Does not have the strong sulfur smell characteristic of conventional cutting oils, resulting in a more pleasant work environment.
- **Chlorine-free** — Minimizes the cost of disposal at the end of the fluid life.
- **Outstanding thermal and oxidation stability** — For maximum fluid life, due to Group II base stocks found in NM, AM, AH and AXH grades.
- **Minimal misting and smoking promoting a safe work environment** — The thermal stability and low volatility of the Group II base stock and the use of an effective mist suppressant minimizes worker exposure to cutting oil mist and vapor.
- **Multipurpose performance** — The nonstaining cutting oils are formulated to serve as the cutting oil, hydraulic fluid and machine lubricant to help eliminate the problem of machine lubricants contaminating the cutting oil.

FEATURES

The unique synthetic antiweld components of Bright-Cut replace the chlorine and minimize the amount of sulfur and fat typically needed for difficult cutting operations. They are light in color, for maximum visibility during machining, and minimal in odor.

Bright-Cut Metalworking Fluids formulated with Group II base stocks provide maximum oil life and promote a safe work environment by increasing the fluid's flash point, and minimizing exposure to aromatics and product vapor, smoking, and misting.

Bright-Cut Metalworking Fluids:

- provide excellent cooling and lubrication in a wide range of machining operations
- help prevent welding of chip and tool
- flush chips away from the work area
- protect the finished work surfaces, tools and machines against rusting and staining
- minimizes oil mist in high speed machine tools

The nonstaining oil, Bright-Cut NM Metalworking Fluid, can be used as a dual or tri-purpose oil in associated splash, hydraulic or spindle lubrication systems of metalworking machines.

Bright-Cut AM, AH and AXH Metalworking Fluids contain active sulfur and will stain copper and brass.

Product(s) manufactured in the USA.
Always confirm that the product selected is consistent with the original equipment manufacturer's recommendation for the equipment operating conditions and customer's maintenance practices.

A **Chevron** company product

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APPLICATIONS

Do not use Bright-Cut® Metalworking Fluids in high pressure systems in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.

The **severity** of the machining operation and the **machinability** of the metal are the criteria for selecting the proper cutting oil.

Bright-Cut NHG Metalworking Fluid

- Service Classification: Honing/Grinding, Nonstaining
- A low viscosity cutting oil that is designed for use in light duty machining or honing and grinding operations on ferrous and nonferrous metals, particularly aluminum, magnesium and their alloys. It can also be mixed with other Bright-Cut Metalworking Fluids to adjust their compounding to meet the demands of a specific machining operation.
- **Not for sale or use in the South Coast Air Quality Management District of California**

Bright-Cut NM Metalworking Fluid

- Service Classification: Medium Duty, Nonstaining
- The workhorse tri-purpose cutting oil, suitable for automatic screw machine operations on free-machining to intermediate steels, and intermediate to difficult nonferrous metals.

Bright-Cut AM Metalworking Fluid

- Service Classification: Medium Duty, Active
- A versatile, general purpose cutting oil for use with carbon steels and alloy steels. It provides the cooling needed for light-to-moderately severe machining operations and gives excellent tool life and finishes in operations such as tapping, threading, drilling, gear shaving and turning.

Bright-Cut AH Metalworking Fluid

- Service Classification: Heavy Duty, Active
- Provides excellent performance for a wide range of applications. It is suitable for machining tough alloy steels and stainless steels. It is well adapted for broaching, threading, tapping and other difficult operations requiring a heavy duty oil for tool life and finish. This oil may be blended with Bright-Cut NHG Metalworking Fluid for less severe applications.

Bright-Cut AXH Metalworking Fluid

- Service Classification: Extra-Heavy Duty, Active
- Designed for the most difficult machining operations, such as broaching, tapping and threading on soft stringy steels that tend to tear easily, leaving a poor finish. It is recommended for use with alloy steels, stainless steels, tool and die steels. It is preferred over chlorinated cutting oils for heavy duty machining of difficult nonferrous metals (e.g. titanium, nickel) that are not subject to staining, but may become brittle through the use of chlorinated fluids. This oil may be blended with Bright-Cut NHG Metalworking Fluid for less severe operations.

TYPICAL TEST DATA

	NHG	NM	AM	AH	AXH
Product Number	*233935*	*233945*	*233944*	*233946*	*233947*
MSDS Number	*7720*	*7721*	*7721*	*7721*	*7721*
API Gravity	39.4	31.0	31.5	30.5	28.7
Viscosity, Kinematic cSt at 40°C cSt at 100°C	 4.68 —	 38.9 6.5	 37.1 6.36	 41.0 6.7	 53.0 7.8
Viscosity, Saybolt SUS at 100°F SUS at 210°F	 41 —	 200 48	 190 48	 210 49	 273 52
Flash Point, °C(°F)	129(264)	210(410)	218(424)	194(381)	196(385)
Pour Point, °C(°F)	-6(+21)	-12(+10)	-4(+25)	0(+32)	0(+32)
Color	L 0.5	L 1.0	L 1.5	L 1.5	L 1.5
Total Sulfur, wt %	0.1	0.5	1.1	1.7	2.7
Active Sulfur, wt %	—	—	0.5	1.6	2.6
Phosphorus, wt %	0.027	—	—	—	—
Zinc, wt%	0.030	—	—	—	—
Chlorine, wt %	—	—	—	—	—
Fatty Oil, vol %	1.8	—	—	—	—
Synthetic EP, wt %	—	5	5	4.5	7
Antimist	Yes[a]	Yes	Yes	Yes	Yes
Volatile Organic Content (VOC), g/L ASTM E1868-10	383	<10	<10	<10	<10

a. Antimist is less effective in low viscosity oils.

Minor variations in product typical test data are to be expected in normal manufacturing.

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