



1010 72 Avenue NE, Calgary, Alberta, Canada T2E 8V9 • Tel: 403-250-8448 / 800-661-6100 • Fax: 403-444-0033 • Email: info@lubecorp.com

“Information on the process to apply the GreenCut[®] on the manufacturing floor.”

It is interesting that I was asked for this information the first time in 20 years and thousands of inquiries. There's the assumption that everyone 'knows' about cutting fluids and that their installation into the cutting machine in question is public knowledge. I will endeavour to address this oversight now.

Attached is pdf **“Lubecorp GreenCut[®] Concentrated Operational Presentation”** for your overview.

Cleaning test machine(s)

The machine in question: Lathe, milling machine, power saw, grinder, etc., should have it's sump (tank) and connecting pipes/hoses cleaned out thoroughly by (power)washing, scraping and rubbing as required. Thereby eliminating all foreign liquids and solids: such as all previous leftover cutting oils/fluids, water, paint and biocide remnants including bacteria liquid and solid deposits. The machine working/cutting surfaces to be buffed with steel wool or plastic cleaning pads to a clean metal, with no buildups and/or rust. Finish with wipe-down with oily rag, including tramp oils, is fine as a finish (part of standard sound machine maintenance practise).

GreenCut[®] operational mixture

We suggest premixing GreenCut[®] with water in a larger tank or container before adding the mixture to the tank(sump).

For example: add 100 litres of water to the tank and mix in at a 20:1 ratio water/GreenCut 5 Litres of GreenCut. Hand mix with a stick or by air pressure bubbling for a few moments until the mixture is visibly stirred and homogeneous. The water is to be clean tap water, and either hard (preferred) or soft. Water pH should be about pH 7 in order to arrive at a finished 9 pH of the 20:1 GreenCut mixture. If the water is softer -say about 8 pH, then the final mixed Water/GreenCut should read about pH 10, giving a spread of 2 pH to work with initially.

This can be maintained in the machining operation by Checking the pH of the sump using pH litmus test paper strips (0 to 14 rating) for colour match. pH to be between 9 and 10 for optimum performance. When the pH reads lower than pH 9 top up the sump with some pure GreenCut, say ½ Litre of GreenCut to +-20 Litre size sump, pump it thoroughly through the pump and check again to get to the right pH.

Always watch for over-dilution of the GreenCut mixture. GreenCut usually gets used up faster than the water (GreenCut is chemically attracted to all metals, including the cuttings and the cutting machine). If you see rust spots, it's your final visual warning that your GreenCut ratio is leaner than 50:1 and is overdue for immediate adjustment.

Under extreme conditions such as tapping/threading a richer GreenCut mixture may be used such as 15:1 or even 10:1 with appropriate feed/speed of the cutting action. Normally this is not required in any alloy machining, always considering tool feed/speed, including GreenCut/water misting applications.

Your finished work piece now has rust protection 1 molecule thick, until it is wiped off with a rag or washed off, including rain.



GreenCut® Cutting/Misting Fluid

Installation & Operational Overview

Originally Approved by:



**Environment
Canada**

under the Environmental Choice Program

1010 72 Avenue NE, Calgary, Alberta, Canada T2E 8V9 • Tel: 403-250-8448 / 800-661-6100 • Fax: 403-444-0033 • Email: info@lubecorp.com

GreenCut® Foaming

No foaming under proper mix and hard water conditions until about 500 PSI. Then Lubecorp Antifoam can be added at a ratio of 4,000:1 Sump : AntiFoam.

Anti Foam does not affect the cutting operation of the tool in question but eliminates the foaming issue. With soft water, more Lubecorp Antifoam can be added at a ratio of 4,000:1 (Sump : AntiFoam) to the GreenCut premix as required. (With high pressure through-tool cooling AntiFoam can be added directly to the sump outlet at the work piece as required.)

I trust this GreenCut® Cutting/Misting Fluid Installation and Operational Overview meets your needs.

Benjamin Vroon,
Chief Chemical Engineer
[LubeCorp Manufacturing Inc](#)

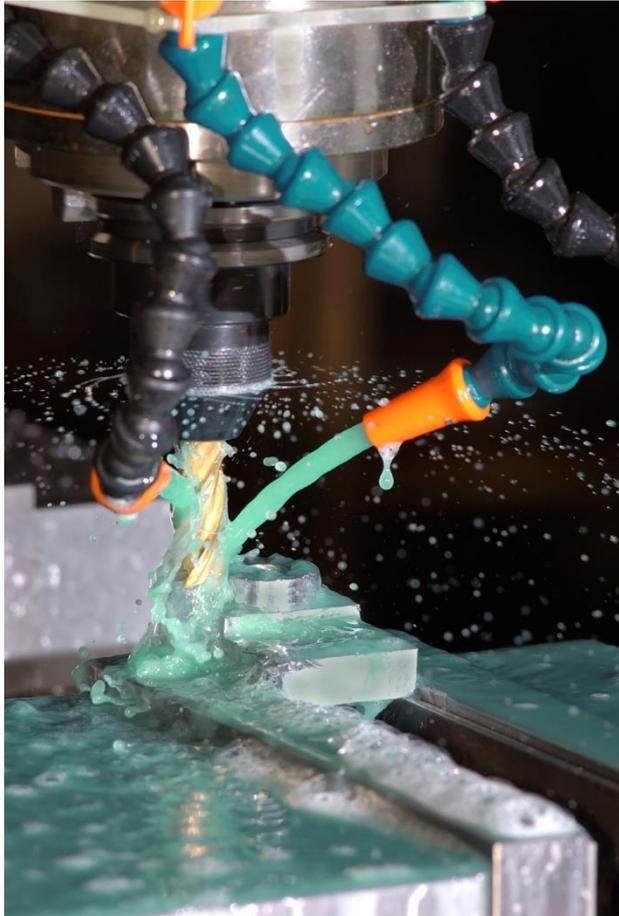


GreenCut[®]

Cutting/Misting Fluid

***the Cutting Fluid
Mother Nature
Would Love***

GreenCut® Biodegradable Cutting/Misting Fluid



Blend **GreenCut** @ 20:1

Machining Cutting Grinding Drilling Tapping
Carbon & Stainless steels. Inconels.
Titanium. Brass. Aluminum.

- **GreenCut** Lubricity provides an additional 40% improved tool and bandsaw-blade life
- Improved cut and finish on all machining, including Liquid CNC Plasma cutters.

- **No sump clean-out for at least one year, just add GreenCut & water to balance mix.**
- **GreenCut “eats” (biodegrades) Tramp oils.** This will prevent nasty bacterial growth, thereby eliminating sump odours.

- **GreenCut** provides enhanced cooling and anti-foaming properties

GreenCut® Biodegradable Cutting/Misting Fluid

GreenCut How-it-Works 1-2

GreenCut provides excellent lubrication, cooling, & burnishing of the work piece:

Extends tool life by 40%.

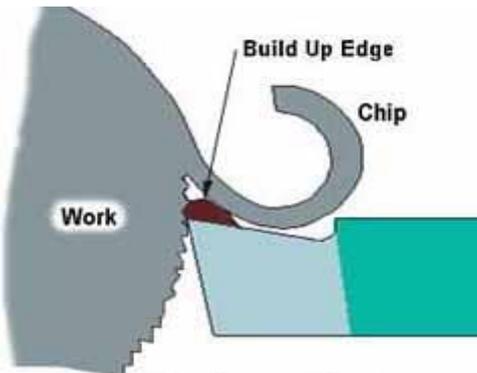
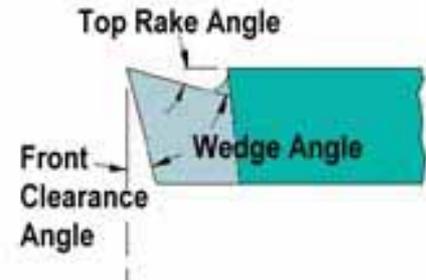
Provides improved accuracy.

Superb surface finish.

Provides increased production speeds.

GreenCut does this by having full access to the seizure zone on the tool rake face, where all the cutting action takes place

GreenCut Prevents metal-to-metal contact due to its tiny 1 micron size sliding between the cutting tool and the metal work piece, and staying there –preventing contact.



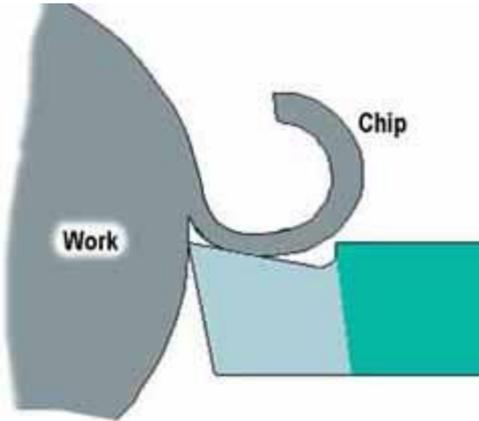
Continuous Chip with Built-up Edge

Avoid this chip condition. It is caused by small particles from the work piece becoming welded to the tool face under high pressure and heat. Results: poor finish and tool damage

Prevented by using GreenCut cutting fluid.

GreenCut® Biodegradable Cutting/Misting Fluid

GreenCut How-it-Works 2-2



Continuous Chip NO Built-up Edge

This leaves the tool as a long ribbon. Due to good tool angles, correct speeds, feeds, and the use of **GreenCut cutting fluid**.

Friction plane heat is significantly reduced by the unique lubrication qualities of GreenCut.

GreenCut is attracted to any metal and clings tenaciously under pressure and its resulting temperature (highly resistant to 'shear'). It does this at any tool speed, feed, or pressure.

GreenCut has a unique molecular arrangement wherein the various chemical molecules, with the 20 : 1 mixed-in water, are reduced to a single micron in thickness but tightly laced together like an interwoven flat floor matt.

It cannot separate in its working environment.



GreenCut® Biodegradable Cutting/Misting Fluid

GreenCut Safety Issues: "IT'S SAFE"

GreenCut contains safe antiseptics!

Promotes healing of lacerations and dermatitis

Vapours: Safe to breathe, will not cause asthma

- Misting with **GreenCut** is safe and very effective
- Spilled **GreenCut**: safe to walk on, it's not slippery
- **GreenCut** "eats" (biodegrades) tramp oils so it can all be flushed down-the-drain (see MSDS)

GreenCut chemistry is totally safe and certified by:
Environment Canada via its 'EcoLogo Program'

Official Ecotoxicity Classification:

"Practically Non-Toxic" and "Absolutely Non-Toxic to
Waste Water Treatment Plant Bacteria"

**GreenCut is totally safe for humans, animals,
fish, daphnia, plant life, land, air, and water.**



hazardous material information system HMIS	
GREENCUT CUTTING FLUID	
HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	A

GreenCut has a nice lemon odor, causing the machine shop to smell pleasant!

GreenCut® Biodegradable Cutting/Misting Fluid

GreenCut Trouble Shooting Guide 1-2



Problem: I see some rust, what's going on?

****Your mix ratio is diluted past 50 : 1****

Watch for **GreenCut** depletion in the sumps.

GreenCut may get used up before the mix-water is used up, due to polar attraction of **Greencut** to all metals, including work piece and waste cuttings. This causes eventual mixture imbalance past 50 : 1. Now rust spots will begin to show up, warning that you are running too lean.

Solution:

Fast fix: Add about a half liter of pure **GreenCut** per 20 Liter bath when the balance is off. Usually you can tell by the color of the **Greencut** in the bath, if it gets too pale green add some more pure **GreenCut**. (Have a clean sample of GreenCut / Water mix at a 20 : 1 ratio, in a clear bottle for color comparison).

Blend GreenCut @ 20:1

GreenCut® Biodegradable Cutting/Misting Fluid

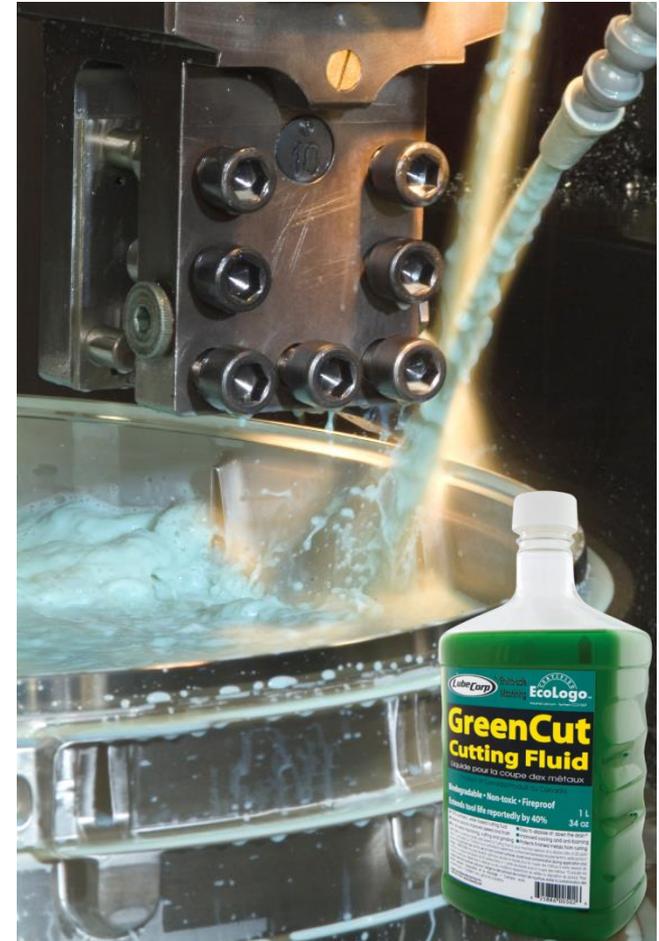
GreenCut Trouble Shooting Guide 2-2

Problem: I get excessive foaming, what do I do?

- ✓ You are using soft water such as rain water.
- ✓ Tank Foaming may occur where high pressure pumps*, 500 psi and up, supply the **GreenCut Cutting Fluid** to the work piece.
*High pressure coolant pumps cause too many air bubbles to enter the cutting fluid mix.

Solution:

In both cases more **GreenCut AntiFoam** can be specially added, right at the final tank mix level.
(Available as a concentrate from LubeCorp).



GreenCut® Biodegradable Cutting/Misting Fluid



GreenCut, a **safe**, effective **non-toxic** cutting fluid that **prolongs tool life** **improves surface finish** while boosting workplace health and safety.



- ✓ **Excellent performance in extreme temperatures and pressures**
- ✓ **Effective no matter the tool speed or feed**
- ✓ **Certified safe: Environment Canada's EcoLogo Program**
- ✓ **Eliminates sump odours permanently**
- ✓ **Immediate biodegradation means you can flush even contaminated fluids**
- ✓ **Easy on the hands and helps heal lacerations & dermatitis**
- ✓ **Vapours won't cause asthma or breathing problems**



Industrial Lubricant - Synthetic CCD-069



Approved by:
**Environment
Canada**