

# GreenCut<sup>®</sup> Plasma Comparison to Plasma Green 1050 (plasma quench)

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In response to your request for information on “Plasma Green 1050 cutting table solution” - this is not a LubeCorp Product. Plasma Green 1050 is a “plasma quench” formulation and supplied by KCI in Matteson, IL, USA.

LubeCorp developed and started manufacturing a product called GreenCut<sup>®</sup> Plasma in 1998, which is used to treat water in CNC plasma water tables to prevent corrosion and bacterial growth. You can learn more about our product on our website: <http://www.lubecorp.com/greencut-plasma-cnc-plasma-cutting/>

As for Plasma Green 1050, which claims to treat the same problems, it is very different in composition and how it works as compared to our GreenCut<sup>®</sup> Plasma.

Plasma Green 1050 is based on the original “Plasma Quench” formulation, originally developed by Koal Industries (not in operation anymore) and sold as Plasma Quench by other companies, such as Chemical Methods Incorporated, Knight Norros Specialty Chemical Solutions, Stevenson Oil & Chemical. These products contain sodium nitrite for corrosion prevention and, while they don't claim this, very likely formaldehyde to control bacteria which thrive in nitrite/nitrate. KCI, the manufacturer of Plasma Green 1050, and other “plasma quench” manufacturers severely misrepresent what they are selling. There are a number of regulations preventing the use of sodium nitrite in industrial fluids, as it is extremely toxic and regulated. Sodium nitrite was phased out from metalworking fluids formulations long ago, worldwide. It has a high acute toxicity (a table spoon would kill an adult man) and in combination with secondary amines (commonly found in these types of fluids) they also cause cancer.

Here is a link to the KCI Plasma Green 1050 MSDS confirming its hazardous presence:  
<http://amp.generalair.com/MsdsDocs/PLGRQS.pdf>

KCI are also making false claims about the SARA reporting of the product in their MSDS as sodium nitrite (CAS 7632-00-0) is reportable at a 1% cut-off limit, as per SARA Section 313 TRI Chemical List. Worse yet, KCI are putting their USA customers into a situation where they may be required to report it under SARA Regulations. If they don't, they may be fined up to \$82,500 per violation/per day, plus Criminal Penalties and all the way to facility closure. Here is the link:  
<https://www.msdsonline.com/resources/regulatory-information/sara-reporting.aspx>

Sodium nitrite limit in drinking water is only 3 mg/L (10% found in Plasma Green 1050 is 100,000 mg/L), making the water from the plasma table very difficult to dispose of.

Also, sodium nitrite is supposed to prevent corrosion but changes into nitrate due to excessive air absorption and thermal breakdown by the plasma arc torch heat in the plasma coolant tank; nitrate then in return causes corrosion. Torch heat causes gassing-off of the nitrite/nitrate with resultant toxic fumes, while sodium remains in the tank causing more rust. LubeCorp has had customers reporting this, where sodium nitrate would collect in the table corner or a low spot on the table floor and literally rust a hole through the metal. You can read more about it here: <http://www.lubecorp.com/wp-content/uploads/GreenCut-Nitrite-Based-Corrosion-Inhibitors-150618.pdf>

As for formaldehyde, the most effective and cheapest biocide, it is also known to be carcinogenic and the industry is in the process of phasing it out where possible.

## GreenCut<sup>®</sup> Plasma Comparison to Plasma Green 1050 (plasma quench) cont'd.

In contrast, our GreenCut Plasma does not contain any toxic chemicals – you can find a video of our CEO drinking it on our website. It is used by many major bridge manufacturers in the US and recommended by many OEM plasma table manufacturers. It is also used effectively as a coolant in machining applications or in bandsaws and is used by Toyota, Varsteel, ALCOA, Kodak, etc. We sell it under the name GreenCut<sup>®</sup> Cutting/Misting Fluid.

There are no problems with water disposal and even better – if the table is designed properly, it doesn't have to be disposed of at all. See our case study: [https://www.lubecorp.com/wp-content/uploads/GreenCut-Plasma-Waste-Water-Disposal\\_case-study-150619.pdf](https://www.lubecorp.com/wp-content/uploads/GreenCut-Plasma-Waste-Water-Disposal_case-study-150619.pdf)

If you wish to learn more about the GreenCut<sup>®</sup> Plasma product and how to properly maintain it, please read our FAQ sheet:

[http://www.lubecorp.com/wp-content/uploads/GreenCut-Plasma\\_Frequently-Asked-Questions-160229.pdf](http://www.lubecorp.com/wp-content/uploads/GreenCut-Plasma_Frequently-Asked-Questions-160229.pdf)

As for pricing, sodium nitrite and formaldehyde biocide are dirt cheap, so I can imagine the initial price for KCI Plasma Green 1050 would be significantly lower, but the biocides and nitrites replenishment, plus increased rust maintenance and disposal costs are going to be high.

In the long run, we find our customers saving money using our GreenCut Plasma product on ancillary items, such as coolant water disposal where waste water can safely go down-the-drain, reduced tank maintenance, and personnel safety.

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**GREENCUT<sup>®</sup> PLASMA FLUID** does NOT contain nitrites,  
or any biocides or pesticides for bacterial control in its formula.  
GreenCut is totally SAFE for humans, animals, fish, land, air, and water.  
GreenCut is proven and originally certified under Environment Canada.

Originally Approved by:



under the Environmental Choice Program

GreenCut eliminates the food source for all bacterium in the metalworking fluid reservoir by instant biodegradation of any oils dripping into the reservoir. The tramp oils are immediately biodegraded to carbon dioxide and water, providing a totally safe environment while eradicating all sump odors.

GreenCut<sup>®</sup> Cutting Fluid will improve machining operations of all metals and alloys by at least 40%, when used at a mix ratio of 1:20 with tap water. GreenCut contains superior metal-cutting chemistry together with anti-rust and anti-foam additives, all of which is SAFE and 100% effective. Used GreenCut Cutting Fluid is approved for direct sewage disposal after waste metals removal.

[www.lubecorp.com](http://www.lubecorp.com)