



TraceTag International Ltd

## CypherFuel

Tagging and Tracing  
Fuels & Lubricants  
for Security and  
Brand Protection

For over twenty years, TraceTag has been helping government agencies and private corporations to protect fiscal revenues or customer brand equity in order to prevent fraud and erosion of value. Fiscal marking schemes have supported the prevention of tax evasion via fuel or tax labels security marking. Our tracing solutions for branded products have allowed protection against counterfeiting, parallel trading and product theft.

Our forensic tagging technology is mainly applied to fuels, inks, printing substrates and plastics. This experience has led to the development of innovative, invisible, field-measurable markers for fossil and renewable oils, fuels and combustibles.

► More information:  
[info@tracetag.com](mailto:info@tracetag.com)

► [www.tracetag.com](http://www.tracetag.com)



## 1 CHARACTERISTICS

**CypherFuel** is a secure cost competitive, fuel and oil security marking solution. It is a unique fuel and lubricant tagging technology, combining a luminescent "flag", that can be detected and measured anywhere along the supply chain, and a biochemical forensic synthetic DNA tracer. The DNA technology allows the production of many unique codes, which can be specific to each customer or each targeted supply chain.



Integrity of the tagged fuel or lubricant can be checked in the field using a dedicated portable device. When fraud is detected or suspected, synthetic DNA detection, using qPCR technology, will allow definitive and unequivocal proof of origin or source and hence be instrumental in the presentation of evidence to courts of law.

**CypherFuel** does not alter colour, odour or properties of fuels and lubricants. **CypherFuel** can be manually or automatically injected into oils and lubricants.

## 2 ADVANTAGES

- is specific for each customer
- is a two-level integrated tracer
- is invisible
- is stable
- is easy to measure with a quantitative result obtained in a few minutes
- uses two different analytical techniques
- reverse engineering of the solution is virtually impossible and cost prohibitive
- is compatible with colour dyes frequently used in the fuels and lubricants industry
- is new on the market and available now

## 3 DETECTION AND MEASUREMENT

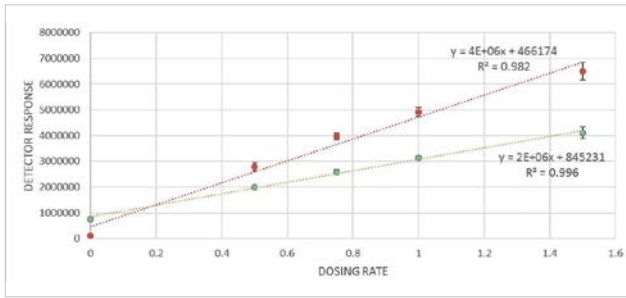
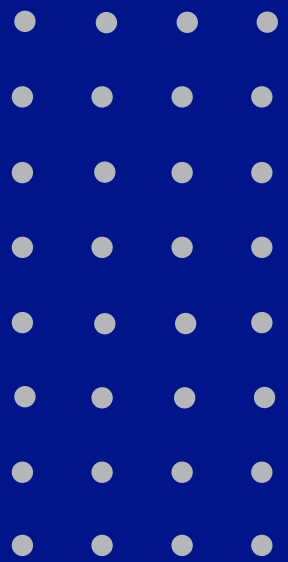
The luminescent tracer (the Flag) is measured in the field using a specific dedicated portable device. The lid panel contains a mounted PC computer, with a power switch.



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All measurements can be performed by technical staff after a few hours of training. Results are obtained in few minutes.

The DNA tracer is measured using qPCR equipment. DNA tracers are designed to ensure that they can be easily amplified through the polymerase chain reaction (PCR) process. The amplification process allows very low concentrations of tracer to be detected with absolute specificity. Only the client can detect and analyze the added tracers.



## 4 DOSING

**CypherFuel** is an efficient tagging solution for:

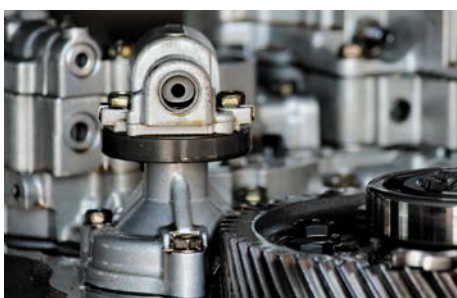
- Gasoline, diesel, kerosene ...
- Emerging green fuels (FAME, BTL, GTL ...)
- Engine oils and lubricants

Recommended **CypherFuel** dosage, 0.5 to 1000 ppm depending on:

- Oil product to be marked
- Volume to be marked
- Manual or automated injection

## 5 INDUSTRIAL APPLICATIONS

- All branded automotive fuels
- Axle Oils
- Base oils
- Lubricating greases
- Motor oils
- Metal processing fluids
- Gearbox oils



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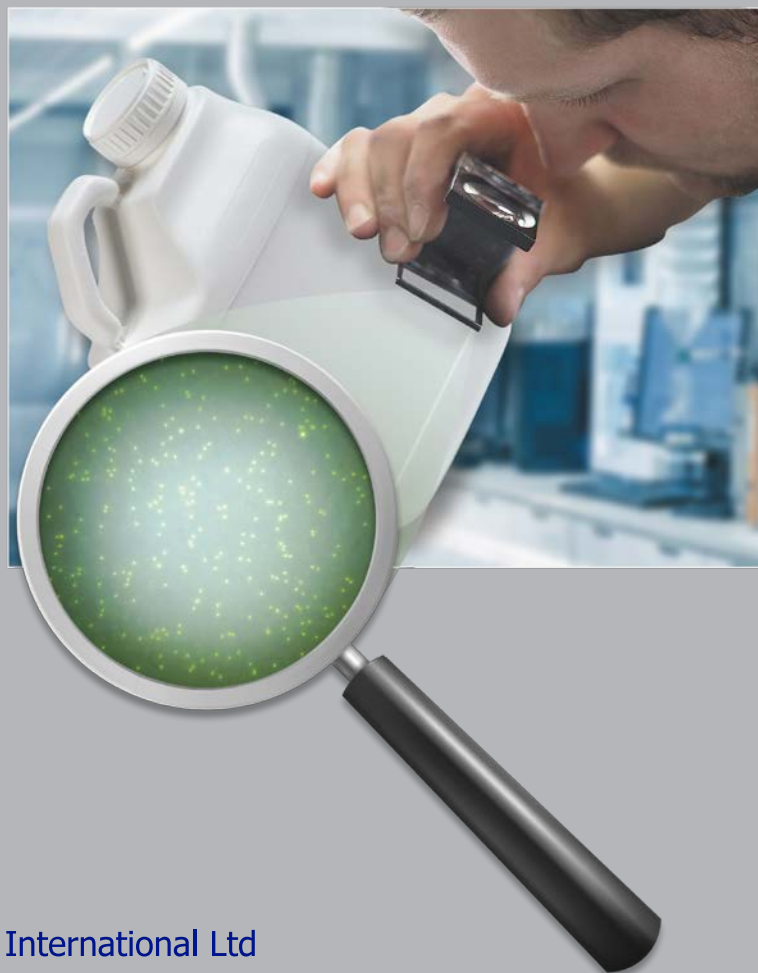




## The versatility of our technologies allows for their use in many different applications



such as the security marking of plastic containers



TraceTag International Ltd

**TraceTag Europe**  
11 bis, rue Rousselet  
75007 Paris  
France  
Tel. : +33 1 5658 0731  
Info@tracetag.com

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