



# **Diesel Dye**

## **Fuel Theft Solutions**

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

Fuel Theft Solution Limited  
PO Box 2494  
Stoke on Trent  
Staffs  
ST7 2WR



## Diesel Dye

Fuel Theft Solutions Ltd and DieselDye are both based and manufactured in the United Kingdom therefore assuring you peace of mind that the products we supply are made in accordance with British Standards and have ISO 9000 quality approval.

DieselDye is the leading fuel marking system.

DieselDye can be added at roadside or ideally in stock tanks

DieselDye is a liquid which is miscible in all fuels.

DieselDye does not harm your engine.

DieselDye supply Worldwide

Supported by 12 labs strategically positioned across the United Kingdom.

Diesel can account for up to 42% of the running cost within the transport industry. With rising operating costs no company big or small can afford to lose diesel through theft.

### **What is diesel theft costing your business?**

Are your vehicles being targeted by outside thieves who monitor your depot activity and steal your fuel when your vehicles are left unattended, or is an opportunist employee taking fuel for his personal fleet? To make unsubstantiated accusations can lead to a potential legal case for slander /defamation and an open cheque book at a tribunal. It is important to get it right first time! Use Diesel Dye!

If fuel is being stolen by an outside force the fact that your fuel is marked blue using "Diesel Dye" will make it far less re-saleable and the thieves are more inclined to find an alternative source of fuel.



# Diesel Dye

Fuel Theft Solutions



## Fuel Theft Solutions

After working in the logistics industry for the last fifteen years I have watched the operating costs increase to alarming levels.

One of the main issues affecting the industry is fuel theft. Diesel Dye is a fuel marking system that allows traceability of fuel. With rising costs, no operator can afford any amount of fuel theft, whatever the size of his fleet.

Unfortunately one of the rapidly rising issues in this field is internal fuel theft, which accounts for the majority of fuel theft each year. Diesel Dye is a visible marking system which will assist in the fight against fuel theft. Many companies have marketed anti-syphon devices that assist in the prevention of fuel theft; however, this can be easily overcome by dropping a pipe into the tank via the sender unit thus showing no apparent entry or fuel theft. Most companies are now implementing anti-syphon systems, however, determined thieves will always try to find a method to overcome this.

Another means of fuel theft even with the use of an anti-syphon device is to overfill the tank which in turn will allow the "SKIMMING" of fuel. Over filling can allow up to 15 % of the tank to be "skimmed" enabling fuel theft without detection.



### Diesel Dye marks all fuel.

Diesel Dye, when added to the stock tank, will mark all fuel with a ratio of 40,000 :1 this can be increased by as much as 85000:1 for minor trace in addition to this we recommend that "DIESEL DYE" stickers be placed on the internal dashboard and also on the tank to warn of fuel traceability.

It is illegal to attempt to impede the identification of a pre marked fuel (rebated) in accordance with the Hydrocarbon Oil Marketing Regulations 2002 14.3

Fuel Theft Solutions do not support or encourage the use of Diesel Dye with rebated fuels.



## Covert Dye

- ✓ Vehicles' not returning acceptable KPL ?
- ✓ Do you suspect fuel theft ?
- ✓ Suspect someone ?
- ✓ Need to confirm your suspicions ?
- ✓ Need to run a covert operation ?
- ✓ Worried about getting it wrong ?
- ✓ Use Covert Dye !!!

Covert Dye can help identify the source of the fuel to ascertain whether it has originated from your stock tank thus enabling you peace of mind that you have got it covered and that you are taking proactive steps to rid yourself of internal theft issues. Once added to the stock tank all the diesel is marked covertly at a ratio of 10,000 :1. This colourless application is most effective in identifying internal theft by employees who are taking your fuel without authorisation. Once you have obtained a sample of fuel, approximately 50ml, from a suspect you add 3-5 drops of the supplied reagent, if it is your pre marked fuel you will see this sample change to a strong green colour which will indicate that you have a positive result. This is proving a most effective tool in the fight against internal fuel theft.

Backed by 12 labs strategically positioned across the United Kingdom. Fuel Theft Solutions are ideally placed to support clients in ascertaining fuel origination.

Fuel Theft Solutions Ltd and Diesel Dye are both based and manufactured in the United Kingdom therefore assuring you peace of mind that the products we supply are made in accordance with British standards and have ISO 9000 quality approval.

## Analysis of Environmental and Oil Samples for Diesel Dye

Samples of diesel fuel oil and environmental soil and water samples can be analysed by Scientifics Ltd. for the presence of "Diesel Dye"

### Fuel Theft Issues:

The Diesel Dye is added to the diesel fuel oil as a marker, turning it a blue colour. The diesel can be tested by Scientifics Ltd. to positively identify in fuel the presence of Diesel Dye, even when other dyes have been added to mask the blue colour, or where the fuel has been diluted to make the blue colour of Diesel Dye ambiguous. Thus enabling a covert application.



### Fuel/Oil Leak Tracing:



When companies have issues with leaking fuel/oils into the environment, then fuel/oil tanks can be spiked with Diesel Dye. Subsequently, soil and/or water samples can be collected and analysed by Scientifics Ltd. to determine if any fuel/oil present also contains the Diesel Dye which could then help in ascertaining whether the leak originated from their fuel/oil tanks.



Where the sample to be analysed is soil or water, samples are extracted in dichloromethane, with the resultant extract reduced down to dryness using an automated evaporation unit, before being reclaimed in petroleum ether ready for solid phase extraction.

Where adequate free oil is present, or if the sample is purely a fuel or oil of some description, then a portion of the oil is dissolved in petroleum ether and vacuum filtered as outlined above, foregoing the dichloromethane extraction stage. A silica Solid Phase Extraction (SPE) tube is used to 'catch' any analyte dyes, whilst simultaneously allowing unwanted hydrocarbon material to be separated to waste.



Dyes held by the silica are recovered from the SPE tube by washing through with acetone, which is then reduced down to near-dryness under argon, and taken up in a known volume of methanol. The methanol extract is then transferred to a sample vial, ready for analysis. The extracted dyes are analysed by High Performance Liquid Chromatography, utilising Diode Array Detection (HPLC-DAD) which allows us to determine the presence of Diesel Dye in the provided samples.

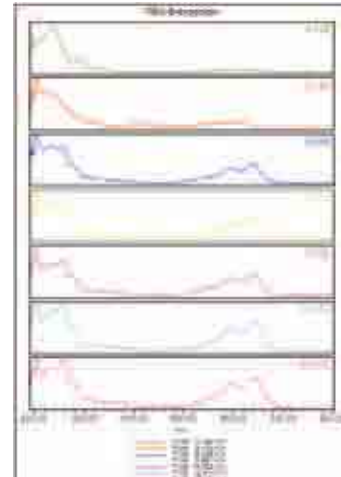
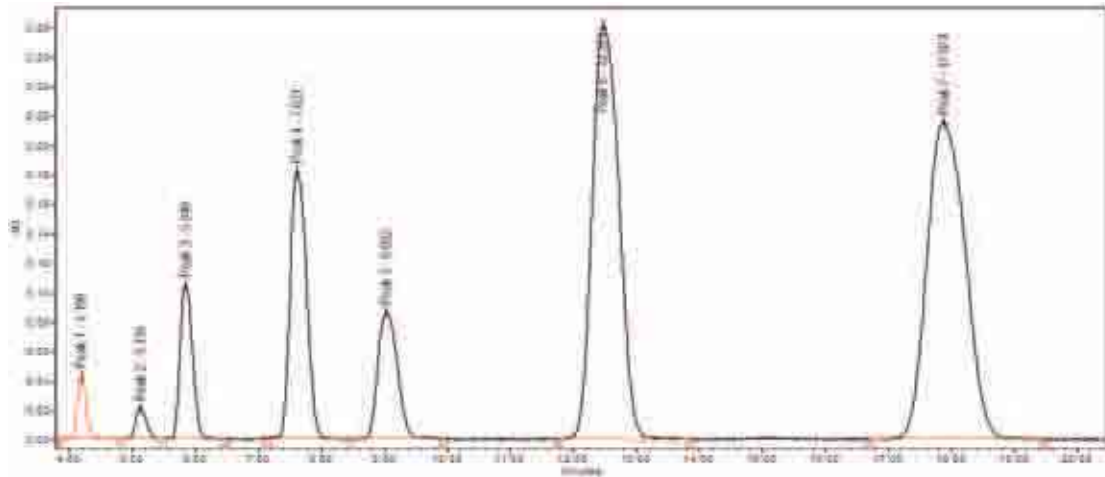


A high detector wavelength was implemented to remove interference observed from diesel/fuel oils and additives, which would inhibit identification at lower wavelengths. A comparison Diesel Dye standard was prepared by making a dilution of a provided standard in methanol. This was analysed alongside the samples on the HPLC to allow for accurate identification, along with a methanol blank.

When extracted at a higher wavelength, the “fingerprint” chromatogram for Diesel Dye, i.e. the retention data for the set of compounds that make up the dye, along with the photodiode array output for each peak, is shown below:



As well as for confirming the presence of the provided control blue Diesel Dye, by using slightly different extraction wavelengths, the method can be modified to I.D. “Sudan” fuel tax markers used to prevent tax evasion on rebated fuels in the UK.



For Diesel Fuel Analysis, Contact: Paul J Walker BSc MRSC



## Exports

With rising fuel costs, fuel theft has become one of the main concerns within the fuel and logistics industry.

Fuel Theft Solutions Ltd has established itself as the leader in the field of fuel theft prevention with its range of visual dyes and covert markers. If your fuel theft problem is internal our colourless markers are the most effective tool. Our coloured markers can be used as an efficient, visual deterrent. Our team of industry professionals are at your service. All office staff hold International Certificates of Professional Competence, assuring you the best attention at all times; giving you peace of mind that you are in safe hands.

Fuel Theft Solutions Ltd export worldwide in accordance with ADR, IMDG and IATA, we also have our own team of IATA certified packers on hand to offer a same day service for airfreight shipment and documentation. Freight tracking allows us to keep you up to date with your consignments.

Fuel theft is a global issue that is why we have a team of distribution partners worldwide, ensuring "Diesel Dye's" availability to all. If your Company is interested in becoming a part of this growing, global, distribution network, then do not hesitate to contact us.

Email [partners@dieseldye.com](mailto:partners@dieseldye.com)



# Diesel Dye

Fuel Theft Solutions



## Buy Diesel Dye / Covert Dye

Purchase Diesel Dye via Worldpay, Paypal, postal payment form or by Bank transfer.

**call 0845 0773921 and pay by debit / credit card**

## Contact us



General enquiries 0845 077 3921

Fax enquiries 0845 077 3922

Bernadette [sales@dieseldye.com](mailto:sales@dieseldye.com) 07890 647516

Chris Day [chris@dieseldye.com](mailto:chris@dieseldye.com) 07875 735859

Fuel Theft Solutions Ltd, PO Box 2494, Stoke on Trent, Staffs, ST7 2WR

Tel: 0845 0773921 Email: [sales@dieseldye.com](mailto:sales@dieseldye.com)

Company No: 6588837 | VAT No: 936 7811 90