irCARE™ Fact Sheet

irCARE is web-based online infrared spectrum data analysing system. Without any analytical experience, our users can upload their infrared spectrum data and receive analytical results immediately.

What is it?

Coupling with handheld Fourier Transform Infrared (FTIR), the non-destructive method.

irCARE can be applied for:

1. Rapid in-field quantification of total petroleum hydrocarbon (TPH) in the soil for contaminated site assessment;

2. Rapid in situ classification of dominant petroleum hydrocarbon (PH) fractions in the soil for contaminated site assessment.

irCARE may also be used for :

Content Analysis

Materials Testing

Product Quality Control

What problem does it solve?

The conventional methods for sample analysis, e.g. PH fraction analysis, are highly labour-intensive, time-consuming and require a high level of expertise.

As a result, to provide representative temporal variations in PH levels, these methods necessitate regular sampling intervals.

Range of applications

1. Rapid in-field quantification of total petroleum hydrocarbon (TPH) in the soil for contaminated site assessment;
2. Rapid in situ classification of dominant petroleum hydrocarbon (PH) fractions in the soil for contaminated site assessment;
3. Medicines and food quality assurance;
4. Measurement of soil texture (percentage of clay, silt, and sand);
5. Building and engineering material testing and quality assurance.

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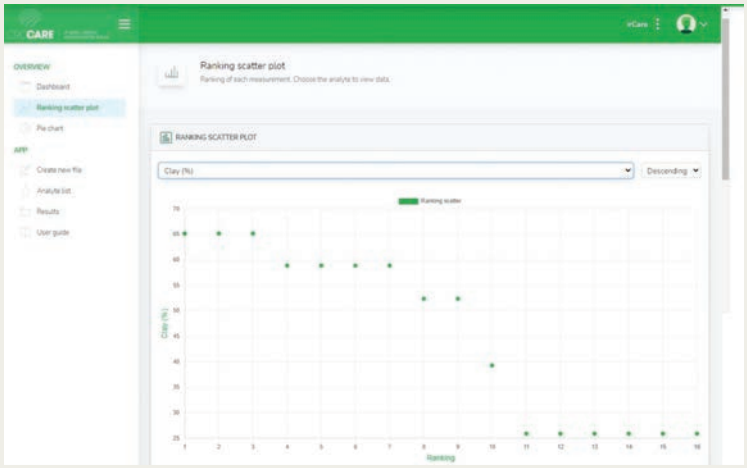
Improving our approach?

irCARE is web-based online infrared spectrum data analysing system.

Without any analytical experience, our users can upload their infrared spectrum data and receive analytical results immediately.

Our users do not have to use a specific FTIR product to use irCARE. To collect the spectral data, they can use any FTIR product on the market.

Our customers may, for example, use handheld FTIR to collect data in situ or use traditional lab-based FTIR instruments to quantify samples ex-situ.



How do I get hold of irCARE?

irCARE has been developed and patented by crcCARE.

irCARE was the first time that the dominant carbon fractions in petroleum products can be quickly identified using FTIR instead of using gas chromatography (GC). There had been no prior research on related applications. Previous research had only used infrared spectroscopy to measure TPH in soil samples. The tool, irCARE was developed as part of crcCARE-funded titled 'Risk-based land management of weathered hydrocarbon', fully funded by crcCARE.

irCARE is freely available at www.crccaretools.com.au

For further information contact Dr Liang Wang at liang.wang@newcastle.edu.au.

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