RxCarbon™

To Whom It May Concern;

EAG Laboratories performed efficacy testing on our proprietary activated carbon, RP718. EAG tested RP718's ability to deactivate two of the most common hazardous drugs used in healthcare facilities; Fluorouracil-5 and Cyclophosphamide. These two hazardous drugs are representative proxies for RP718's deactivation qualities for all hazardous drugs. The attached test results demonstrate RP718's hazardous drug deactivation efficacy is >97%.

Our proprietary activated carbon, RP718, is used in products produced and distributed by RxCarbon™, LLC.

RxCarbon™ pads are currently used to protect surfaces in compliance with <USP800>; thereby, protecting healthcare workers and the environment by capturing, deactivating, and sequestering controlled and hazardous liquid pharmaceuticals. Also see our RxCarbon™ container pads for regulated waste containers at www.rxcarbonpad.com.

Thank you for your interest and we look forward to helping you protect your healthcare workers and the environment!

Gregg R. Short
Founder
RxCarbon™, LLC

EAG LABORATORIES | Eurofins Materials Science

ISO 9001:2015 CERTIFIED
DEFORMULATION
MATERIALS IDENTIFICATION
FAILURE ANALYSIS
LITIGATION SUPPORT
CONSULTING

Test Report
Analysis of Activated Carbon Sample

Waste Compliance Management

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EAG Job #V1LGP626

REVISION	DESCRIPTION	DATE
0	Final report.	February 19, 2021

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EXECUTIVE SUMMARY FOR
Janet Short
Waste Compliance Management

February 19, 2021

STUDY OBJECTIVE

V1LGP626 Analysis of activated carbon sample

SUMMARY OF ANALYTICAL RESULTS AND INTERPRETATIONS

The table below presents the results of the analysis.

SAMPLE	5-FLUOROURACIL LOD (µg/g)	% REDUCTION	CYCLOPHOSPHAMIDE LOD (µg/g)	% REDUCTION
RP718	0.5	99.996%	9	96.907%

SAMPLE LOG-IN

SAMPLE NAME	DATE RECEIVED
RP718	21 Jan 2021

Please remember we dispose of samples 30 days after the date of this Executive Summary unless instructed otherwise.

Thank You for choosing **Eurofins EAG Materials Science, LLC**. Please feel free to contact either reviewer with any questions or comments associated with this report or any additional work. We look forward to working with you in the future.

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We want your feedback! Please visit us at https://www.eag.com/survey/?job=V1LGP626 to fill out a brief survey.

Analysis of Activated Carbon Sample
Analytical Results and Interpretations

Spiking Experiment

Table 1 summarizes the experimental parameters for the spiking and extraction of RP718. To assess the adsorption of 5-fluorouracil and cyclophosphamide on the sample, RP718, 10.8 grams of the sample were weighed out and spiked with solutions of 5-fluorouracil (Sigma, PN:F6627) and cyclophosphamide (Sigma, PN:C0768). The sample was allowed to sit 30 minutes before extraction with water. The water was then centrifuged to isolate the supernatant. The supernatant was then analyzed by liquid chromatography with mass spectrometry detection (LC/MS).

Table 1. Spike and extraction experimental details

Sample	Mass Sample (g)	Spike Mass 5-Fluorouracil (g)	Spike Mass Cyclophosphamide (g)	Water Extraction Mass (g)
RP718	10.8416	0.2492	0.2027	50.1349

Quantitation by LC/MS

Table 2 summarizes the results of the quantitation of 5-fluorouracil and cyclophosphamide in the spiked sample of RP718. The limit of detection (LOD) is the in-sample value.

Table 2. Summary of results from the analysis of spiked RP718

Sample	5-Fluorouracil LOD (µg/g)	5-Fluorouracil % Reduction	Cyclophosphamide LOD (µg/g)	Cyclophosphamide % Reduction
RP718	0.5	99.996%	9	96.907%

Figure 1. Chromatograms of blank injection, 5-fluorouracil standard, and RP718 extract

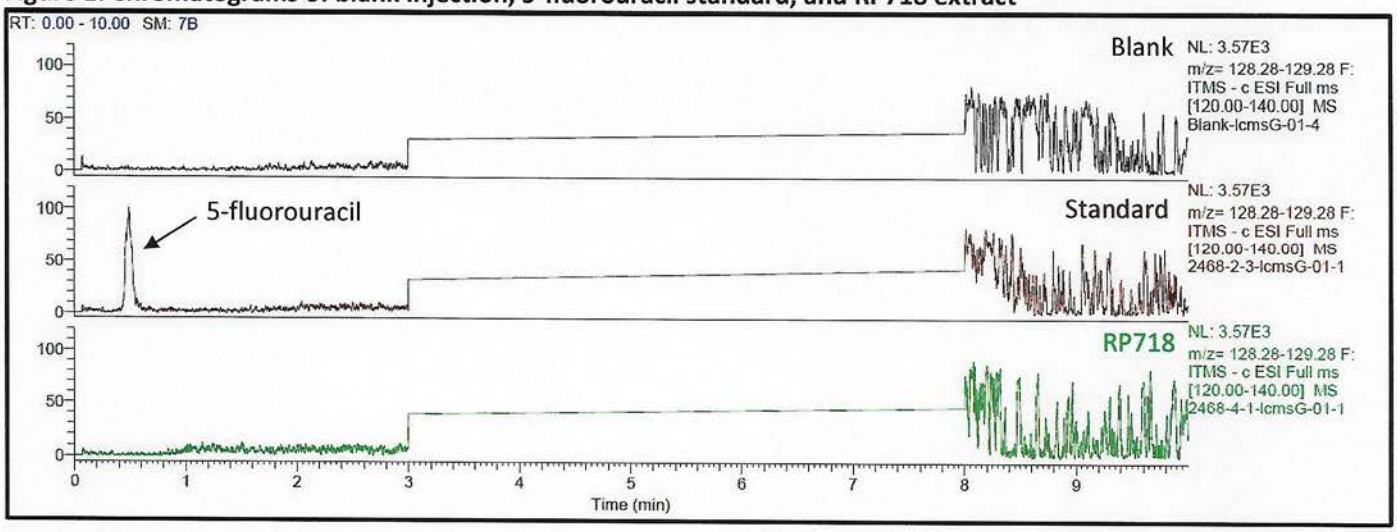
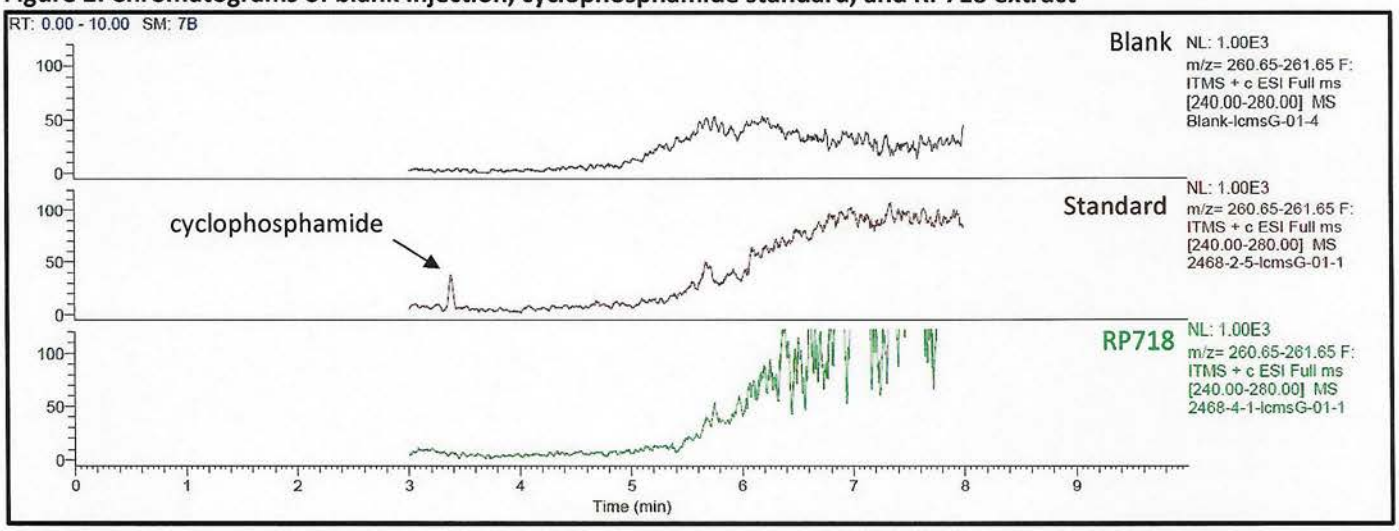


Figure 2. Chromatograms of blank injection, cyclophosphamide standard, and RP718 extract



TECHNIQUE DESCRIPTIONS

LIQUID CHROMATOGRAPHY/MASS SPECTROMETRY (LC/MS)

LC/MS is on the STL 17025 Scopes of Accreditation. LC/MS combines the techniques of HPLC and MS to characterize the structures of components in a complex matrix. HPLC is used for the separation of the compounds in the sample. A mixture of solvents or solutions, called the mobile phase, is forced at high pressure through a packed column, usually of coated silica particles, called the stationary phase. Components in the mixture are separated based on the difference in their affinities for the stationary phase and the mobile phase and can be detected and measured as they elute from the column. Typically, HPLC detection is performed using a UV detector monitoring absorption at a target wavelength or wavelengths. The time a chemical component spends in the column from injection until detection is known as retention time and is an indicator of component identity when compared with the retention time of known standards under the same conditions. The measured peak area or height is concentration dependent and may be used to quantify the component.

In a LC/MS experiment, the effluent from the HPLC is sent to the ion source of a mass spectrometer for mass analysis of the resolved components. Using an Ion Trap Mass Spectrometer, the parent ions can be characterized by fragmentation, providing structural information for characterization of unknowns, or complete identification of known species by matching both the retention time and fragmentation pattern between the sample and a reference standard.

Ion trap MS is a method by which a parent ion can be 'trapped', and all other ions excluded. The trapped parent ion can be subjected to collisions with a buffer gas and the fragments or daughter ions observed. Any one of these daughter ions can then be trapped and fragmented further. This process of trapping and subsequent fragmentation can continue as long as there is sufficient sample concentration. In this manner, a precise lineage of fragment ions can be obtained for any parent ion. This contrasts with methods such as classical EI/MS where fragmentation occurs all in one event and it is not possible to tell which daughter ions came directly from a parent ion and which came from another daughter ion. From this process, a great deal of structural information can be obtained for an analyte.

There are two common modes of ionization, atmospheric pressure chemical ionization (APCI) and electrospray ionization (ESI). ESI generally gives better responses with nitrogen-containing compounds and usually results in very little fragmentation so that parent ions are formed, and so, molecular weights determined. APCI is a form of chemical ionization that is more energetic than ESI, and so some fragmentation is observed. APCI can yield better results with non-nitrogen-containing molecules.

Either ionization source can be operated in the positive or negative ion mode. In positive ion mode, ions result from the addition of a proton to a neutral species, so a neutral species of mass M will show up as a singly charged ion at m/z = M+1. The neutral species may also form an adduct with any other charged species present resulting in an ion at m/z higher than M+1. For example, an ion resulting from an adduct with H_3O^+ would appear at M+19. In negative ion mode, ions usually result from the abstraction of a proton from a neutral species. Thus, an ion formed from a species of mass M will appear at m/z = M-1.

For quantitative analyses, the amounts listed in the tables above were referenced to a known amount of external standard and are quantitative. Calibration curves were prepared, and relative standard deviation and relative percent difference information are referenced in the report above. For semi- qualitative analysis, the amounts listed in the tables above were referenced to a known amount of external standard and are semi-quantitative. No calibration curves were prepared, and no attempt was made to correct for response factor differences between species that are structurally/functionally different. Typical reproducibility as determined by statistical process control of the measurement system is estimated at about 10% (at 95% confidence level, k ~ 2). This reproducibility is an estimate of the uncertainty of a single standard measurement over time, and the uncertainty in a specific measurement must be determined on a case by case basis. For qualitative analyses, analytical reference standards were not analyzed to confirm the presence of the individual components. In such cases it is not possible to assign a numerical value to the "uncertainty" of the matches provided. Tentative structural assignments are based on parent mass internal database searching and interpretation.