

# [News story: CEN updates affecting chemical measurements \(animal feed\) September 2017](#)

The following lists of standards were published by the European standardisation organisation, CEN, during the period June to August 2017, some of which are relevant to chemical measurement in support of regulation.

[EN 16930:2017](#) – Animal feeding stuffs: Methods of sampling and analysis – Determination of carbadox and olaquinox by HPLC/UV

Carbadox and olaquinox are quinoxaline-N-dioxide derivatives and have been widely used in feed additives to prevent infectious disease and improve animal growth but are now prohibited in the EU.

This standard describes a method for the simultaneous determination of carbadox and olaquinox in compound animal feed and raw materials using high performance liquid chromatography with a UV detector (HPLC-UV) at levels up to 100 mg/kg. The limit of quantification (LOQ) in determining olaquinox is  $\geq 3$  mg/kg and for carbadox  $\geq 4$  mg/kg in animal feedstuffs and raw materials.

[EN 16939:2017](#) – Animal feeding stuffs: Methods of sampling and analysis – Detection of tylosin, spiramycin and virginiamycin – Thin Layer Chromatography and bioautography

Tylosin, spiramycin and virginiamycin are macrolide compounds and have been widely used in feed additives to prevent infectious disease and improve animal growth but are now prohibited in the EU.

This EN standard describes a screening method using thin-layer chromatography (TLC) with a reported limit of detection  $\geq 1$  mg/kg to detect spiramycin, tylosin and virginiamycin in animal feed originating from plants but excluding mineral and pre-mixture feedstuffs.

For confirmatory purposes liquid chromatography coupled with a mass spectrometer (LC-MS) is required.

EN 16930 and EN 16939 have been developed in accordance with European Commission Mandate [M/521](#) to prepare standards for the determination of food contaminants implementing the framework of [Regulation \(EC\) No 882/2004](#) on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules.

[EN 15510:2017](#) – Animal feeding stuffs: Methods of sampling and analysis – Determination of calcium, sodium, phosphorus, magnesium, potassium, iron, zinc, copper, manganese, cobalt, molybdenum and lead by ICP-AES

The elemental composition of animal feed additives and pre-mixtures is required to be known for the purposes of authorisation of certain feed

additive compounds under EU legislation.

The elements calcium, sodium, phosphorus, magnesium, potassium, iron, zinc, copper, manganese, cobalt, molybdenum and lead are present in compounds used as feed additives or contaminants that should not be present above specified concentrations.

This EN standard describes extraction methods for the specified elements in organic feed additives using dry ashing followed by dissolution into hydrochloric acid or for inorganic feed additives by wet digestion using hydrochloric acid. For the determination of extractable lead in minerals and feeds containing phyllosilicates (e.g. kaolinite clay) wet digestion with nitric acid is specified. The concentrations of the extracted elements are determined by inductively coupled plasma atomic emission spectroscopy (ICP-AES).

The limit of quantification for each element is dependent on the sample matrix and the instrument used but should not be greater than 3 mg/kg for the specified elements with these methods and requires verification.

[EN 15621:2017](#) – Animal feeding stuffs: Methods of sampling and analysis – Determination of calcium, sodium, phosphorus, magnesium, potassium, sulphur, iron, zinc, copper, manganese and cobalt after pressure digestion by ICP-AES

The elemental composition of animal feed additives and pre-mixtures is required to be known for the purposes of authorisation of certain feed additive compounds under EU legislation.

The elements calcium, sodium, phosphorus, magnesium, potassium, sulphur, iron, zinc, copper, manganese and cobalt are elements that may be present in compounds used as animal feeds and additives.

This EN standard describes an extraction method for the specified elements in animal feeds using pressure digestion. The concentrations of the extracted elements in animal feeds and additives are determined by inductively coupled plasma atomic emission spectrometry (ICP-AES).

The standard advises that for potassium and sulphur the method is more applicable as a screening method and not for confirmatory purposes.

The limit of quantification for each element is dependent on the sample matrix and the instrument used but it is estimated to be around 1 mg/kg for the specified elements.

EN 15510 and EN15621 are referenced in Commission Implementing Regulations for [Regulation \(EC\) No 1831/2003](#) on additives for use in animal nutrition. Recent examples of Commission Implementing Regulations citing EN 15510 and EN15621 include the determination of total copper in the authorisation of copper(I) oxide as described in (EU) 2016/2261 and the determination of total zinc in the authorisation of acetate dihydrate, zinc chloride anhydrous, zinc oxide, zinc sulphate heptahydrate etc as described in (EU) 2016/1095.

[EN 15550:2017](#) – Animal feeding stuffs: Methods of sampling and analysis –

Determination of cadmium and lead by graphite furnace atomic absorption spectrometry (GF-AAS) after pressure digestion

The elemental composition of animal feed additives and pre-mixtures is required to be known for the purposes of authorisation of certain feed additive compounds under EU legislation.

The elements cadmium and lead are contaminants that should not be present above specified concentrations in compounds used as feed additives.

This EN standard describes an extraction method for cadmium and lead in animal feeds using pressure digestion. The concentrations of the extracted lead and cadmium in feed additives are determined by graphite furnace atomic absorption spectrometry (GF-AAS). For the determination of extractable lead in minerals and feeds containing phyllosilicates (e.g. kaolinite clay) wet digestion with nitric acid is specified

The limit of quantification is dependent on the sample matrix and the instrument used but is estimated for both cadmium and lead to be around 0.05 mg/kg.

Further information on food legislation can be found on the Government Chemist website:

[Food and feed law: Compendium of UK food and feed legislation with associated context and changes during April to June 2017 – Government Chemist Programme Report](#)

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## **[News story: Davis: Every region must flourish after Brexit](#)**

Delivering on his commitment to meet with the Northern Combined Authority Mayors, David Davis has today held discussions with Andy Burnham, Steve Rotherham and Ben Houchen about the region's priorities for EU exit.

The Secretary of State was joined by Minister Steve Baker who will lead on future engagement with the English regions during negotiations with the EU. This reaffirms the Government's commitment to work with all regions to ensure that we secure a deal that works for every part of the UK.

Today's meeting in York gave Ministers an opportunity to update the Mayors on the progress of negotiations. It also enabled the group to discuss future trading relationships with the EU, the new UK immigration policy and the future of European structural funding.

Speaking after the meeting, Secretary of State for Exiting the European

Union, David Davis, said:

As we continue to make decisive steps towards our exit, we are committed to bringing all of the UK with us – ensuring that every region is able to flourish.

The Combined Authorities play a crucial role in representing the priorities of our regions which is why I'm pleased that we are continuing to build a productive relationship with their Mayors since their election in May.

We will continue working closely with them to understand the potential challenges and opportunities that leaving the EU presents to each of the regions, building on the productive meeting we have held in York today.

Minister for Exiting the EU, Steve Baker said:

With our negotiations well underway, delivering a deal that works for every part of the UK remains our priority. Meetings such as these are hugely important to ensure we do just that.

Today has been informative and constructive and I am looking forward to maintaining this engagement with the Combined Authority Mayors in the coming months.

Today's meeting follows the Prime Minister's recent speech in Florence and the fourth round of negotiations in Brussels. It also follows two recent regional tours by Minister Steve Baker – to the North East and Cornwall – as part of the Government's continued business engagement programme.

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## [News story: Government plans £80 million smart ticketing rail revolution](#)

The government has this week set out details of its £80 million programme to introduce smart ticketing across England and Wales by the end of 2018.

Transport Secretary Chris Grayling said:

Passengers across the country want smart ticketing and this government will deliver it.

This significant investment will ensure that passengers across the network can use mobile phones, bar codes and smart cards across almost all of the network by the end of next year.

The £80 million investment will ensure:

- every passenger will have the choice of travelling without a paper ticket by the end of 2018
- mobile barcode ticketing will be rolled-out on every rail franchise in Great Britain
- passengers will be able to have smart cards hosted on their mobile phone – like a digital travel card – with a pilot of this technology expected in the next 4 months

The Department for Transport is also working on plans with the Rail Delivery Group to bring forward the next generation of ticketing systems to give passengers more tailored options to pay for their travel, saving them money and offering better value deals.

The investment will quickly deliver benefits to passengers across the country. Discussions with train companies about the introduction of mobile phone smart cards are at an advanced stage, with deals soon to be reached with 3 operators. This will mean that both mobile phone smart cards and mobile barcode tickets will soon be accepted by every operator in England and Wales and be interoperable across different franchises.

In addition, pay-as-you-go travel is being rolled-out extensively across the rail network, including with the introduction of KeyGo – a contactless travel card – by Govia Thameslink Railway. The KeyGo system allows passengers to use their card to tap in and tap out across virtually the entire Thameslink, Southern and Great Northern networks, from Cambridge to Brighton, and automatically be charged the most appropriate fare for their journey. Other train operators are soon to follow, with tests happening shortly on South Western Railway, c2c and Greater Anglia.

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## **Press release: Vital renovation for sea wall at Walton on the Naze**

The sea wall at Walton on the Naze helps to protect a wetland site of designated international importance under the Ramsar Convention.

The repair work will ensure the wall remains an effective flood defence for

years to come and prevent any further deterioration.

Starting later this month, a section of the tidal defence embankment will be refurbished over a 3 month period. The project will see the renovation of a 1.7 kilometre stretch of the embankment, running north up the coast from Foundry Lane.

The work is being carried out by civil engineering contractors Breheny and will take place on the crest and seaward sides of the embankment.

Work is due to begin in the week commencing 9 October 2017 and normal working hours will be from 7:30am to 5pm, Monday to Friday.

Kerry Bentley, Asset Performance Officer for the Environment Agency, said:

This is very important work and will ensure the sea wall can continue to provide an effective level of protection in the area for years to come.

The damaged sections of existing sea wall will be removed and new sections will be added.

The old blocks will be placed at the toe of the sea wall as habitat and to help reduce wave impact.

In order to ensure the safe delivery of these works we will need to redirect short sections of the footpath to the rear of the wall.

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## **Press release: Dstl reports on space weather**

Every day this week, Dstl will be posting a 'Space Weather Forecast' on social media to increase awareness of how weather in space can impact us on Earth.

The Met Office Space Weather Operations Centre (MOSWOC) continuously monitors space weather in order to assess the risk to us on Earth. The Space Weather forecasters from the MOSWOC, in conjunction with scientists at Dstl, research the impact of space weather such as solar flares, coronal mass ejections (CMEs), geomagnetic storms and changes in our ionosphere.

Space weather describes disturbances in Earth's upper atmosphere and magnetic field which have a variety of impacts on mankind and our technology.

The major impacts of a severe space weather event can be divided into 2

areas: impacts on technology on Earth; and threats to equipment and health in space and at high altitude.

These could potentially include:

- Power grid outages
- Disruption to Global Navigation Satellite Systems (GNSS) / Global Positioning Satellites (GPS)
- High Frequency (HF) radio communications outages
- Satellite damage
- Increased radiation levels at high altitude

Thankfully, severe space weather events are rare but when they do occur the impacts to our national infrastructure are extremely significant.

Space weather events have always occurred, but our modern reliance on technology driven systems makes us more susceptible to the impacts.

Different systems are exposed to varying levels of risk depending on technical design, location and the type of space weather that can affect them. The challenge for scientists is to ensure new systems are designed with appropriate engineering solutions to minimize the risk posed by space weather.

Dstl Space Weather specialists have stated that:

Monitoring space weather is fundamental to ensuring that our defence systems and national infrastructure remain secure. Part of the work we undertake is to collaborate with international scientists and the Met Office to ensure that we assess and learn from space weather and the impact it may have on the Earth.

This week at Dstl, we will be sending out weather reports supplied by the Met Office to raise awareness and also to encourage young people to get interested in this area of work.

Space Weather Programme Manager at the Met Office, Catherine Burnett, said:

The services we deliver today, together with our plans for future products and services, are underpinned by an in-house science team who work with many partners across government and academia, including colleagues at Dstl. This way we ensure the very best scientific understanding is used to help the UK prepare for and mitigate against the potential impacts of space weather.

Check out @dstlmod for twitter updates on Space Weather, with thanks to the Met Office for the information.