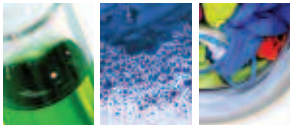

Enviomet™

Enviomet™

Enviomet™ is a range of readily biodegradable chelating agents based on EDDS ([S,S]-Ethylenediaminedisuccinic acid). EDDS is a powerful chelating agent that is particularly useful in applications where control of transition metal ions is essential in the presence of hardness ions such as pulp processing, laundry, cleaning, personal care and agriculture.

Properties

Enviomet™ products are powerful biodegradable chelating agents that are particularly effective at chelating transition metal ions such as iron, copper and manganese while not being distracted by hardness ions such as calcium and magnesium.

Transition metal ions are responsible for many unwanted side reactions such as peroxide decomposition, oxidation, malodours, free radical generation etc. The use of EDDS as a chelant can eliminate these undesirable effects.

EDDS is a unique chelant in its selective binding: Hardness ions are responsible for scale formation and can also interfere with surfactants to produce scum and deposits. EDDS does chelate hardness ions, but it will bind with transition metals in preference.

In liquid detergents EDDS can help to remove stains which contain metal ions, such as grass and spinach, by binding and lifting the metals from the fabric surface.

EDDS shows excellent performance in eliminating hydroxyl radical formation in peroxide systems compared to other chelating agents. EDDS traps the metals and prevents the decomposition of the oxidative species leading to the radicals that can attack the fibres in pulp and cloth, and have adverse interactions with dyes causing unwanted colour change or fading.

EDDS also inhibits the dulling of metal-sensitive dyes by binding transition metal present is wash water. This is key in hair bleaching applications where EDDS is used as a copper sequestrant.

Applications

Enviomet™ is used in a wide range of applications, wherever transition metal ion control is required:

Laundry - powder and liquid

- Stain removal
- Peroxide/Peracetic acid stabilisation
- Prevention of radical formation
- Dye and fabric protection
- Biocide potentiator

innospec
active chemicals

Pulp processing

- Q-Stage - removal of iron and manganese
- Peroxide stabilisation in P-stage
- Enhanced brightness in P-stage
- Reduce or eliminate EDTA and DTPA usage

Cleaning

- Stain removal
- Peroxide stabilisation
- Scale control
- Removal of transition metals from surfaces
- Biocide potentiator

Agriculture

- Pest control
- Micronutrient feeding

Soil remediation

- Removal of heavy metals from soil
- Known to leave Fe, Ca and Mg in soil
- Rapid biodegradation prevents further mobilisation of toxic metals

Enviomet™ now offers a wider range of bespoke environmentally friendly products targeted at solving customer problems. We use a range of techniques from our PRISM speciation modelling software, design of experiments and high throughput screening backed up with applications testing to find the right solution for the problem.

Available as:

- Enviomet™ C140 - solution of tri-sodium EDDS
- Enviomet™ C265 - solid free acid of EDDS
- Enviomet™ C320 - solution of iron ammonium salt of EDDS

See also Natrlquest E30 chelating agent for personal care applications.

Safety and Toxicology

Non-biodegradable chelating agents such as EDTA and DTPA are under regulatory pressure, such as IPPC, Water Framework Directive and the EDTA Risk Reduction Strategy to be eliminated or have reduced usage. Phosphonates are also non-biodegradable and are under threat from future Detergent Directives and also with restrictions on phosphorus content. NTA has recently been reclassified as R40 - possible carcinogen and is also being targeted for replacement.

EDDS is readily biodegradable, non-toxic, with no R or S-phrases. It is eco-labeled approved for use in EU Flower, Nordic Swan and Bra Miljöval products. It was also the winner of the UK Green Chemical Technology Award 2003. It is also already registered under REACH and unlikely to be affected by future legislation.

The EU Detergents Directive (648/2004) passed into UK Law in October 2005 and places a requirement on manufacturers to use biodegradable surfactants within their detergent formulations. The next Directive will consider the biodegradability of the main non-surfactant ingredients. Enviomet™ can help formulators stay ahead of future European Detergent Directives now.

Enviomet™ - Chelating agents kind to your clothes and the environment

- Excellent transition metal chelation
- Outperforms other biodegradable chelants
- Excellent stain removal
- Reduced dye damage
- Fabric protection
- Biocide potentiator
- Excellent peroxide and per-acid stability
- Readily biodegradable
- REACH compliant
- Eco-Label approved – EU Flower, Nordic Swan, Bra Miljöval
- Green Award Winner - UK Green Chemical Technology Award 2003

Enviomet™ contains [S,S]-Ethylenediaminedisuccinic acid [EDDS]

For further information, please email your region:
america-ac@innospecinc.com, aspac-ac@innospecinc.com, emea-ac@innospecinc.com
www.innospecinc.com

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