

A close-up photograph of vibrant green grass blades, slightly out of focus, creating a natural and fresh background. The blades are thin and elongated, with some showing fine veins. The overall color palette is various shades of green, from light lime to a deeper forest green.

Processos tecnológicos limpos

Processos Tecnológicos Limpos

- A Química Verde não é mais que a utilização de um conjunto de princípios no sentido da redução ou eliminação do uso ou geração de substâncias perigosas, no design, fabrico e aplicação de químicos.

Existem vários pontos a considerar no *design* de químicos verdes de forma a ser alcançado o objectivo em termos de propriedades, com o mais baixo custo para o meio ambiente.: Previsão dos efeitos desejados; Ecotoxicidade; Bioconcentração; distribuição no meio ambiente; degradabilidade

Processos Tecnológicos Limpos



The screenshot shows a web page from the European Commission's Environment portal. The page title is "Preparing for REACH" and it focuses on "REACH Implementation Projects (RIPs)". The page includes a navigation menu on the left with categories like "Chemicals", "REACH", "Reviews", "Publications", "Background", "Press Releases & Speeches", "Glossary", and "Links". The main content area contains a photograph of laboratory glassware (flasks and beakers) and text explaining the Commission's strategy for a smooth transition to REACH. It lists five RIPs: RIP 1 (Process description), RIP 2 (IT system development), RIP 3 (Guidance documents for industry), RIP 4 (Guidance documents for authorities), and RIP 5/6 (Setting up the Agency). The page also mentions the European Chemicals Bureau (ECB) and provides links for further details.

Environment

EUROPA > European Commission > Environment > Chemicals > REACH > Preparing for REACH

English (en)

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Preparing for REACH

REACH Implementation Projects (RIPs)

To enable a smooth transition from the existing chemicals legislation to REACH, the Commission has developed within an interim strategy a number of REACH Implementation Projects (RIPs) to ensure that all stakeholders, especially industry and public authorities, are adequately prepared for the practical application of the new system.

These Implementation Projects foresee the development of guidance documents and IT-tools for the European Chemicals Agency, for industry and the authorities of the Member States including 5 central areas:

- [RIP 1 - REACH Process description](#)
- [RIP 2- REACH-IT: Development of the IT system to support the REACH implementation](#)
- [RIP 3 - Guidance Documents: Development of guidance documents for industry](#)
- [RIP 4 - Guidance Documents: Development of guidance documents for authorities](#)
- [RIP 5/6 - Setting up the Agency](#)

The European Chemicals Bureau (ECB) in Ispra has been given the responsibility to develop those tools and methodologies as it has the main practical experience from administering the practical implementation of the pre-REACH chemicals legislation, while DG ENV and DG ENTR ensure the political and legislative compatibility. The activities are coordinated closely with the main stakeholders i.e. Member States, Industry and NGOs.

In order to gain practical experience stakeholders were encouraged to co-operate in trying out aspects of the new system in so-called [Strategic Partnerships](#).

For further details please visit the website of the [European Chemicals Bureau](#) or access the available guidance documents on the website of the [European Chemicals Agency](#).

Last updated: 30/04/2008

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- **União Europeia:** regulamentação e fomento de projectos
Exemplo: REACH (criação da Agência Europeia das Substâncias Químicas)
Outros: Protocolos de Quioto e Montreal, Convenção de Estocolmo

Processos Tecnológicos Limpos

The screenshot shows the website for the 17th European Symposium on QSAR in "omics" and Systems biology, held in Uppsala, Sweden, from September 21-26, 2008. The page features a navigation menu on the left, a central news section with two updates, and a right sidebar with important dates and sponsors.

QSAR2008.org
17th European Symposium on QSAR in "omics" and Systems biology
September 21-26, 2008 in Uppsala, Sweden

Main Menu
Latest News
Registration and Abstract
Scientific programme
Exhibition/Sponsorship
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Latest News
Update June 15 2008: Scientific programme updated
Written by Administrator
Dear All,
The preliminary [Scientific Programme has now been updated with selected oral contributions from abstracts](#). Visit "Scientific programme" for the latest updated version.
The deadline for [Poster abstract submission](#) has been extended to **July 15 2008**. (see "Registration and abstract submission"). The poster boards should be width = 120 cm maximum - height = 120 cm maximum.
Yours sincerely,
Euro-QSAR 2008 organizers
Last Updated (Sunday, 15 June 2008)

Update May 30: Scientific programme
Written by Administrator
Dear All,
The preliminary [Scientific Programme and Notification of Oral Presentation](#) has been delayed until **June 14 2008**. Visit

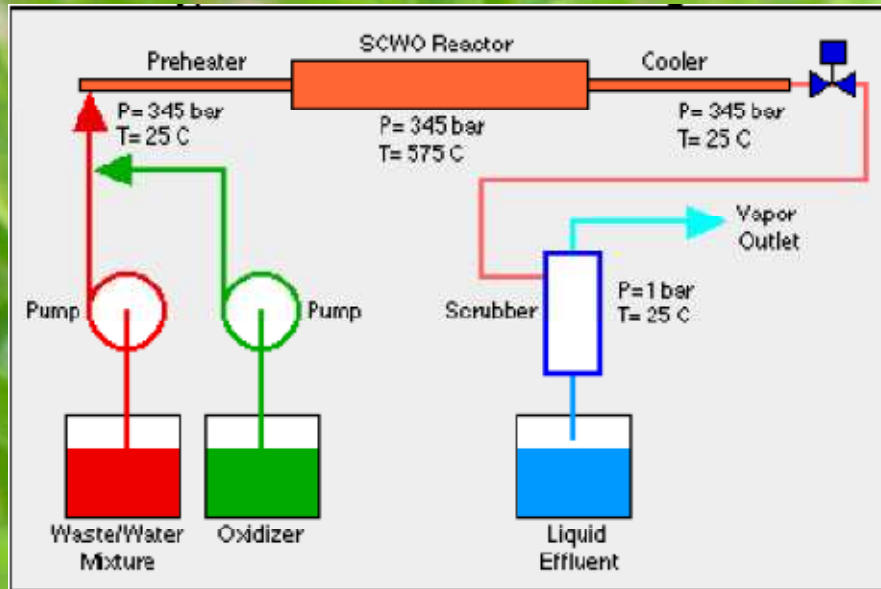
Important dates
Abstract submission **July 15, posters only**
Notification of oral presentation June 15
Early bird registration May 15
Hotel reservation July 15
Payment Aug. 01
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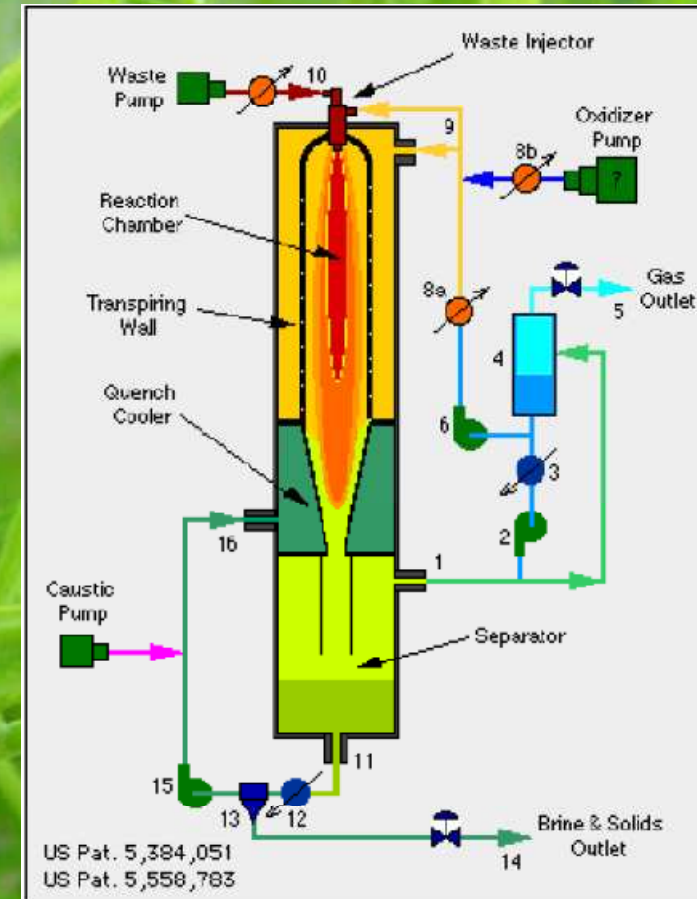
QSAR (Quantitative Structure Activity Relationships)

baseado em propriedades químicas, que podem ser da molécula no seu todo ou de subestruturas (ou grupos). Deste modo, é possível utilizar a ferramenta antes ou após a síntese do químico.

Processos Tecnológicos Limpos

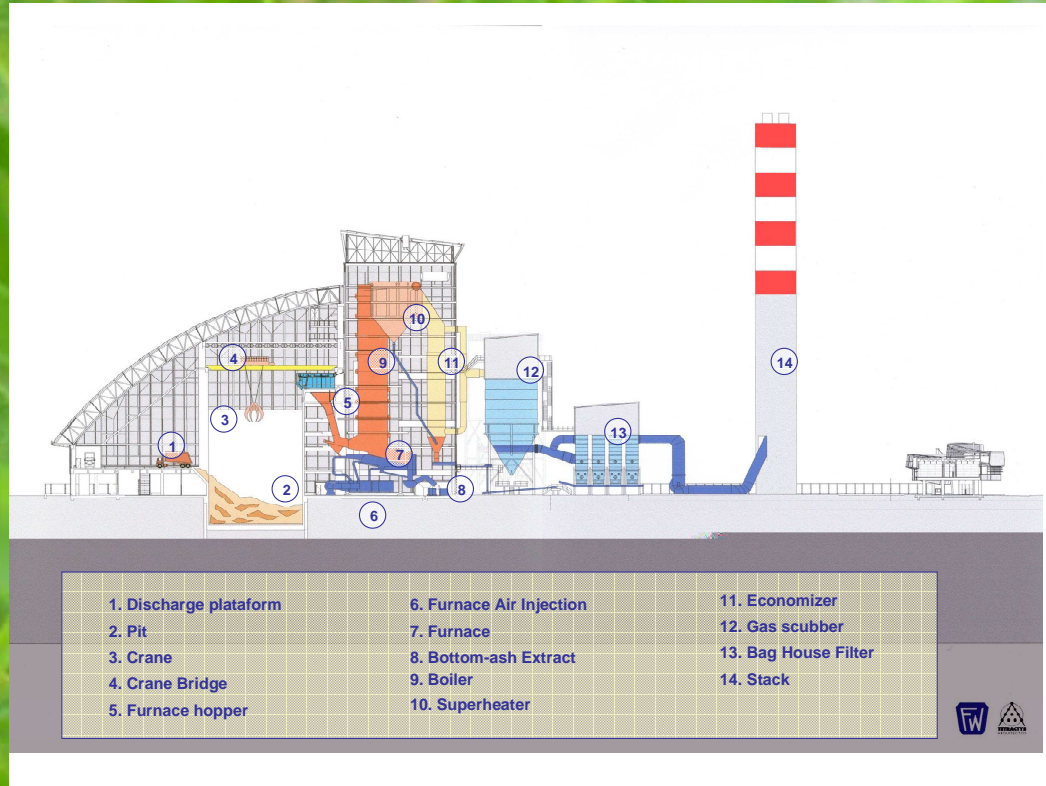


Super Critical Water Oxidation

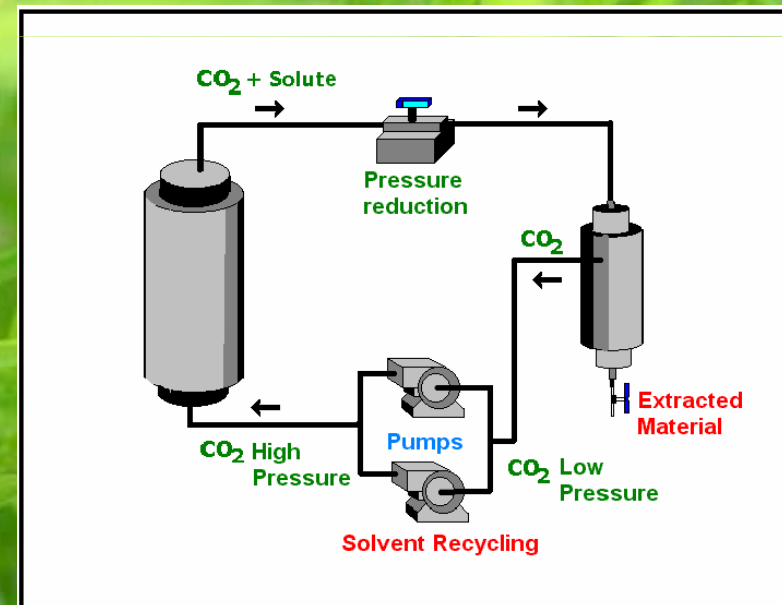


WASTE	SCWO REACTANTS	SCWO PRODUCTS
Cellulose	$C_6H_{10}O_5 + 6O_2$	$6CO_2 + 5H_2O$
Methane	$CH_4 + 2O_2$	$CO_2 + 2H_2O$
Benzene	$C_6H_6 + 7.5 O_2$	$6 CO_2 + 3 H_2O$
Dioxin (PCDD)	$Cl_2-C_6H_2-O_2-C_6H_2-Cl_2 + 11 O_2$	$12 CO_2 + 4 HCl$
Chloroform	$CHCl_3 + 0.5 O_2 + H_2O$	$CO_2 + 3 HCl$
TNT	$CH_3-C_6H_2-(NO_2)_3 + 5.25 O_2$	$7 CO_2 + 2.5 H_2O + 1.5 N_2$
Ferrous Chloride	$FeCl_2 + 0.25 O_2 + H_2O$	$0.5 Fe_2O_3 + 2 HCl$
Nerve Agent HD	$Cl-C_2H_4-S-C_2H_4-Cl + 7 O_2$	$4 CO_2 + 2 H_2O + 2 HCl + H_2SO_4$

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Super Critical CO₂ For fly ash cleaning



Processos Tecnológicos Limpos

Chemical Processing and Fine Chemicals

- reaction media, for example in catalytic processes
- reaction media, for example in nucleophilic substitutions
- auxiliary for acid scavenging (BASIL)

Metal Processing

- electroplating of aluminum onto steel
- electroplating of chromium
- electropolishing of steel and other metal surfaces

Polymer and Biopolymer Processing

- solvent for regenerating cellulose (e.g. fibers and films)
- enabling technology for manufacturing cellulose derivatives
- and polymer blends

Electrochemistry and Electrolytes

- high-performance electrolyte in lithium ion batteries
- and supercapacitors
- solvent and electrolyte in dye-sensitized solar cells

Separation Processes

- entrainer in extractive distillations, e.g. ethanol/water
- extraction processes (e.g. aromatics from aliphatics)
- biorefinery (separation of lignin from cellulose)

Engineering and Functional Fluids

- non-flammable hydraulic liquids
- high-performing lubricants
- and cleaning fluids

BASF
LIs - Aplicações

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LIs como solventes **Aplicação à celulose**

One of the most remarkable properties of ionic liquids is their ability to dissolve cellulose. This opens up a broad range of opportunities which so far could not be investigated, as solutions of cellulose in chemically inert solvents simply did not exist. The dissolution and processing of cellulose in ionic liquids was invented by Prof. Robin Rogers et al. from the University of Alabama (WO 2003/029.329). **BASF Cellionic:**
Ready-to-use: Solutions of Cellulose

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Green Chem., 2008, 10, 501 - 507, DOI: 10.1039/b800366a

Ionic liquids for liquid-in-glass thermometers

Héctor Rodríguez, Margaret Williams, John S. Wilkes and Robin D. Rogers

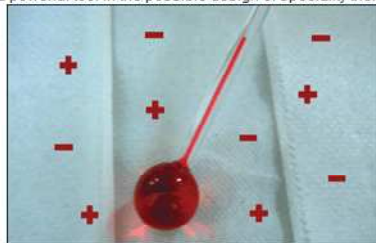
Paper

Green Chem., 2008, 10, 501 - 507, DOI: 10.1039/b800366a

Ionic liquids for liquid-in-glass thermometers

Héctor Rodríguez, Margaret Williams, John S. Wilkes and Robin D. Rogers

The varied portfolio of applications of ionic liquids (ILs) as thermometric fluids in liquid-in-glass thermometers. Two ILs, namely tris(2-hydroxyethyl)methylammonium methylsulfate ([TEMA][MeSO₃]) and trihexyl(tetradecyl)phosphonium bis((trifluoromethyl)sulfonyl)amide ([P₆₆₆₁₄][NTf₂]), have been selected for the construction of thermometers with ranges of operation tuned to general and speciality applications. The regular expansion of the IL volume with changes in temperature has been tested, and successful prototypes have been built, consisting of liquid-in-glass devices with an approximately spherical reservoir and a capillary tube attached. These devices have the advantage of operating with a fluid of ionic nature and a practically negligible vapor pressure. In addition, the inherent tunability of IL properties is a powerful tool in the possible design of speciality thermometers.



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Outras aplicações
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Outras aplicações

Company	Application	it serves as...	status
Air Products	gas storage	complexing agent	pilot
Linde	gas compression	liquid piston	pilot
BASF	acid scavenging	auxiliary	commercial
BASF	extractive distillation	extractant	pilot
BASF	chlorination	solvent	commercial
Degussa	hydrosilylation	solvent	pilot
Degussa	compatibilizer	performance additive	commercial
Solvent Innovation	high performance lubricant	base oil	prototype
Solvent Innovation	antistatoc additive	performance additive	commercial
Eli Lilly	cleavage of ether	catalyst/reagent	pilot
IFP	olefin dimerization	solvent	pilot
Arkema	fluorination	solvent	pilot
Chevron Philipps	olefin oligomerization	catalyst/reagent	pilot
Wandes/Iolilec	cleaning fluid	performance additive	commercial
Scionix	electroplating (Cr)	electrolyte	pilot

Markus Wagner; Ionic liquids: commercial success stories and further challenges; Supplement to Chimica Oggi/CHEMISTRY TODAY; Vol. 25 nr. 6; Green Chemistry/Ionic liquids ; Figure 2

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