FEDERCHIMICA
CONFINDUSTRIA

AISPEC
Mapic - Gruppo materie prime per l'industria cosmetica
e additivi per l'industria cosmetica e farmaceutica

We inform that Mapic created a new WG on sustainability called industrial ecology

Industrial ecology is a subject based on the integration of Principles of the Green Chemistry (12) and of the Green Engineering (9) (attached).

The purposes of this WG are the following:

- To identify the items about the sustainability within the context of the personal care ingredients sector (related to our sector), (to) our regional area and (to the main) different legislations and regulations;
- To define a road map (attached) in order to support members companies to take in consideration and evaluate these subjects within their company profiles;
- To suggest and make available some useful tools (e.g. ISO standards, software, etc), trusted and widely accepted;
- To support the activities of EFfCI WG Sustainability and Carbon Footprinting;
- To collaborate with the supply chain players in order to achieve the same purposes and adopt a common understanding of sustainability terms and best practices
- To communicate member companies and the supply chain players our realizations;
- To promote the proper sustainability's knowledge.

The contribution such as ideas, expertise and experience from every member company are welcomed.

The Chairman of this WG is Elisabetta Merlo from Zschimmer & Schwarz.

Milano, July 2012

In attachment:
Road-map
12 green chemistry principles
Industrial ecology definition
9 green engineering principles

ROAD MAP

1. To describe the type and the field of the activity, logistic position, facilities interfaces, etc..

2. To define the expertise and responsibilities for the evaluation.

3. To gather guidelines concerning the proper field of activity.

4. To gather ISO guidelines in order to carry out the relevant analysis.

5. To take into consideration the requirements in force and upcoming policy concerning the activity.

6. To define the scope (specific field) of the analysis (product, line, department, facility, organization, event).

7. To determine consumptions and wastes within the established border line area (time, production etc)

8. To gather inventories as relevant as possible (type of activity, regional area, etc) to evaluate the proper activity.

9. To evaluate activities in relation with the 9 principles of green engineering and the 12 ones of green chemistry.

10. To highlight the analysis points where it is possible to act autonomously for improvement (measure, monitor and manage) and ones that are closely by frameworks outside the direct control.

11. To determine the critical relationships with items outside the border line area.

12. To fill in tables containing current data, any previous data, achievements and aspirations.

13. To communicate and make a dialogue to the other supply chain players and to the outside world.

INDUSTRIAL ECOLOGY – DEFINITION

Study of the environmental and socio-cultural human process, based on an interdisciplinary approach, in order to assess the industrial activities' impacts on the availability of natural resources, on the environment's capacity to captivate waste and on the ecosystems, in order to design and manage the production systems in an ecosustainable way.

PRINCIPLES OF GREEN CHEMISTRY (12)

1. Prevention - It is better to prevent waste than to treat or clean up waste after it has been created.

2. Atom Economy - Synthetic methods should be designed to maximize the incorporation of all materials used in the process into the final product.

3. Less Hazardous Chemical Synthesis - Wherever practicable, synthetic methods should be designed to use and generate substances that possess little or no toxicity to people or the environment.

4. Designing Safer Chemicals - Chemical products should be designed to effect their desired function while minimizing their toxicity.

5. Safer Solvents and Auxiliaries - The use of auxiliary substances (e.g., solvents or separation agents) should be made unnecessary whenever possible and innocuous when used.

6. Design for Energy Efficiency - Energy requirements of chemical processes should be recognized for their environmental and economic impacts and should be minimized. If possible, synthetic methods should be conducted at ambient temperature and pressure.

7. Use of Renewable Feedstocks - A raw material or feedstock should be renewable rather than depleting whenever technically and economically practicable.

8. Reduce Derivatives - Unnecessary derivatization (use of blocking groups, protection/de-protection, and temporary modification of physical/chemical processes) should be minimized or avoided if possible, because such steps require additional reagents and can generate waste.

9. Catalysis - Catalytic reagents (as selective as possible) are superior to stoichiometric reagents.

10. Design for Degradation - Chemical products should be designed so that at the end of their function they break down into innocuous degradation products and do not persist in the environment.

11. Real-time Analysis for Pollution Prevention - Analytical methodologies need to be further developed to allow for real-time, in-process monitoring and control prior to the formation of hazardous substances.

12. Inherently Safer Chemistry for Accident Prevention - Substances and the form of a substance used in a chemical process should be chosen to minimize the potential for chemical accidents, including releases, explosions, and fires.

PRINCIPLES OF GREEN ENGINEERING (9)

1. Engineer processes and products holistically, use systems analysis, and integrate environmental impact assessment tools.

2. Conserve and improve natural ecosystems while protecting human health and well-being.

3. Use life-cycle thinking in all engineering activities.

4. Ensure that all material and energy inputs and outputs are as inherently safe and benign as possible.

5. Minimize depletion of natural resources.

6. Strive to prevent waste.

7. Develop and apply engineering solutions, while being cognizant of local geography, aspirations, and cultures.

8. Create engineering solutions beyond current or dominant technologies; improve, innovate, and invent (technologies) to achieve sustainability.

9. Actively engage communities and stakeholders in development of engineering solutions.