Phosphates in Detergents

*Country case studies on P-detergents*

Gheorghe CONSTANTIN
DIRECTOR
Ministry of Environment and Water Management
www.mmediu.ro

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**Legislation (1)**

**MANUFACTURING AND USE**

- Recommendation no. 89/542/EC – GD no. 745/1999 – labelling
- Regulation no. 648/2004 – modified by the Directive no. 73/404/EEC and Recommendation no. 89/542/EC – not in Romania
- Recommendation no. 98/480/EC – good environmental practice for individual management
- GD no. 1530/2004 – ecological label for washing detergents
Legislation (2)
POLLUTION AND ENVIRONMENTAL PROTECTION

- Directive no. 91/271/EEC – GD no. 188/2002 modified by the de GD no. 352/2005 – discharge limit values:
  - Technical norms NTPA 001 – “active anionic surfactants” and “phosphates” – in water resources
  - Technical norms NTPA 002 – “detergents” and “phosphates” – in sewage and municipal treatment stations

DLV and quality standards

<table>
<thead>
<tr>
<th>Quality norms</th>
<th>Total phosphorus (mgP/l)</th>
<th>Detergents (µg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GD no. 188/2002</td>
<td>1,0</td>
<td>0,5</td>
</tr>
<tr>
<td>(Annex no. 3 – NTPA 001)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GD no. 188/2002</td>
<td>5,0</td>
<td>25</td>
</tr>
<tr>
<td>(Annex no. 2 NTPA 002)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MO no. 161/2006</td>
<td>class I – 0,15, class II – 0,4, class III – 0,75, class IV – 1,2, class V &gt; 1,2</td>
<td>class I – 100, class II – 200, class III – 300, class IV – 500, class V &gt; 500</td>
</tr>
</tbody>
</table>
**Legislative responsibilities**

- **Ministry of Economy and Commerce** – production, classification, diversity, safety strategies
- **National Authority for Customer Protection** – labeling, commercialization, good instructions for environment, user’s protection
- **Ministry of Environment and Water Protection** – protection of water resources, mechanisms and politics for reduction of pollution in waters, monitoring of water quality

**Type of detergents**

1. Taking into consideration the state:
   1. Solids – with variable content of phosphorus (0-20%)%)
   2. Liquids – without phosphorus?

2. Taking into consideration the composition (National Institute for Statistics):
   - Anionic,
   - Cationic
   - Non-ionic

3. Taking into consideration the use (no in Romania):
   - Laundry/Washing detergents,
   - Industrial detergents
   - Dishwashing detergents
Romanian producers

1. Unilever – collaborate with the authorities
2. Procter and Gamble
3. Henkel
4. Romanian Organization of the detergents and cosmetic producers

The production and use of detergents in Romania

- **Production:**
  - 2000: 77,436 tonnes
  - 2004: 160,915 tonnes

- **Use:**
  - 2000: 97,030 tonnes
    - 12 g/day/inhabitant
  - 2004: 182,856 tonnes
    - 23 g/day/inhabitant
Detergents production - Unilever

- Detergents with phosphates – 43 421 tonnes in 2005
- **Detergents without phosphates – 20 000 tonnes – only export in Germany and Holland**

- Starting 2007 – Unilever produce only detergents without phosphates (less then 0,2%)

Detergents import in Romania

- **Import:**
  - 2000 – 51 343 tonnes
  - 2004 – 160 915 tonnes
  - **Danube countries:** - 2000 – 39 681 tonnes
    - 2004 – 77 122 tonnes
  - **Other countries** - 2000 – 11 662 tonnes
    - 2004 – 42 152 tonnes
Detergents export from Romania

- **Export:**
  - 2000 – 31 749 tonnes
  - 2004 – 97 334 tonnes
  - **Danube countries**
    - 2000 – 19 056 tonnes
    - 2004 – 77 552 tonnes
  - **Other countries**
    - 2000 – 12 693 tonnes
    - 2004 – 19 812 tonnes

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Detergents production, import, export and use in Romania (tonnes)

- Production
- Import
- Export
- Use

- **Tonnes:**
  - 0
  - 20 000
  - 40 000
  - 60 000
  - 80 000
  - 100 000
  - 120 000
  - 140 000
  - 160 000
  - 180 000
  - 200 000

- **Years:**
  - 2000
  - 2001
  - 2002
  - 2003
  - 2004
Inhabitant specific P discharge from point sources in the Danube countries from the period 1998 to 2000 (according to Behrendt & colab. 2004)

TP load evolution of the Danube river and P concentration evolution of the coastal waters - Constanta
Nutrients average loads (1989 – 1997) discharged from the Danube to the Black Sea and the pollution sources from the Romanian coastal waters of the Black Sea

Nutrients average loads (1989 – 1997) discharged from the Danube to the Black Sea and the pollution sources from the Romanian coastal waters.
The population connected to the centralized water delivery networks

Grad realizare retele de canalizare (% locuitori echivalenti)
Grad realizare a statiilor de epurare (% locuitori echivalenti)

Sewage and treatment station
Thank you!