Odorgard™ catalytically enhanced chemical scrubbing is an important improvement on the traditional caustic bleach scrubbing process, giving improved total odour removal efficiencies with capital and operating cost savings.

**Key benefits**

- **Excellent removal of H2S and total odour**
  Odorgard™ scrubbers can achieve higher than 99.9% removal of H2S coupled with unsurpassed removal efficiencies of non-H2S components (see over).

- **Single Tower System**
  Catalysing the scrubbing liquor with Odorgard™ means that in a single tower more odour is removed than in a comparative 3 tower scrubbing system. This means the plant is more compact, easier to maintain and costs less. The bulk removal and oxidation of odourous VOCs also improves the bed life of downstream carbon polishing (where used).

- **Outstanding removal of non-H2S compounds**
  Odorgard™ scrubbers oxidise captured contaminants in seconds rather than minutes. This means as soon as contaminants are absorbed into the scrubbing liquor they are rapidly oxidised to stable soluble salts. This fast oxidation makes Odorgard™ scrubbers the state of the art system for total odour removal.

- **Chemical savings**
  The Odorgard™ enhanced scrubber uses approximately 30% less bleach than a conventional scrubber. This can result in savings of £10,000’s each year in running costs for a typical plant.
**Technology for a sustainable future**

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**Odorgard™**

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**H₂S and non-H₂S removal performance**

The following table is actual performance test data for a single tower Odorgard™ Scrubbing System at a site which has high mercaptans and other non-H₂S loadings.

<table>
<thead>
<tr>
<th>Measured Loadings</th>
<th>Inlet</th>
<th>Outlet</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odour measured by Olfactometry, ouE/m³</td>
<td>57,991</td>
<td>1,276</td>
<td>97.8%</td>
</tr>
<tr>
<td>Actual H₂S measured by Jerome, ppm</td>
<td>8.1</td>
<td>0.056</td>
<td>99.3%</td>
</tr>
<tr>
<td>Actual H₂S converted to ouE/m³*</td>
<td>16,266</td>
<td>112</td>
<td>99.3%</td>
</tr>
<tr>
<td>Non-H₂S odour by deduction, ouE/m³</td>
<td>41,725</td>
<td>1,164</td>
<td>97.2%</td>
</tr>
<tr>
<td>Total odour, ouE/m³</td>
<td>57,991</td>
<td>1,276</td>
<td>97.8%</td>
</tr>
</tbody>
</table>

*H₂S converted to odour units using 0.0005ppm odour threshold value

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**Odorgard™ scrubber**

- **Soft water**
- **Blowdown**
- **Scrubber packing**
- **Mixer**
- **Schematic of Odorgard™ scrubber**
- **Caustic solution dosing**
- **Hypochlorite solution dosing**
- **Gas inlet**
- **Gas outlet**
- **Recirculation pump**
- **Catalyst bypass valve**

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**Units installed and operating successfully include:**

- **Northumbrian Water**
  - Coastal Scheme STW (10 units)
  - Howdon STW (5 units)
  - Washington STW

- **North West Water**
  - Shell Green SPC

- **Anglian Water**
  - Ingoldmells STW

- **Scottish Water**
  - Ardoch STW (Odorgard upgradeable)
  - Scottish Water

- **DRD Water Services**
  - Tullaghgarley (Odorgard upgradeable)

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**Southern Water**

- Ford STW & STC (3 units)
- Sandown STW & SRC
- Weatherlees Hill (Odorgard upgradeable)

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