Knowledge grows

Yara Sluiskil

General presentation
Content presentation

Safety

History

Key indicators

Feedstock & Energy

Products & Processes

Innovation en Sustainability
Safe by Choice

Safety introduction for visitors
Safety policy: Safe by Choice!
Safety principles

All injuries are preventable and safety is the common basis for our 'license to operate'

✓ Managers (included supervisors) are responsible for:
  ▪ Reducing risk to as low as reasonably practical
  ▪ Setting safety standards and goals, monitoring, auditing and completing agreed actions on time as well as reviewing performance to achieve operational discipline and continuous improvement in safety.
  ▪ Developing employees to work safely.

✓ All employees and contractors are responsible for:
  ▪ Having the appropriate competence for safe working
  ▪ Adhering to safety technical standards and rules at all times.
  ▪ Addressing own and others at risk behaviors' and to reinforce 'safe' behaviors.
  ▪ Taking immediate action to correct, report and follow up near misses and hazardous conditions.

✓ Working safely is everyone's responsibility and is a condition of employment.
Do’s and don'ts

- 30
- No fire
- No alcohol
- No drugs
- No camera
- No phone

(only allowed in specific smoking room/area)

(where indicated)

Obligated on whole plant area (wear also long sleeves)

Extra during works

Extra PPE needed when pass by production zones indicated by ‘blue lines’
Alarm

EMERGENCY NUMBER:

+31 (0)115 474 100
INTERNAL: 100

ALARM SIGNAL AND ANNOUNCEMENT:

Loud note during 3 seconds, silent during 1 second etc.
[ ... 3 ... ] 1 [ ... 3 ... ] 1 [ ... 3 ... ] 1 [ ... 3 ... ]
Information in Dutch language
End alarm: 20 seconds horn tone.
[..................20...................] 

IN CASE OF EVACUATION:

- In case of toxic cloud use escape hood.
- Go to a safe assembly point (see map).
- Walk in transverse direction to the wind.
- Check at the assembly point if all your colleagues are present.
- Report yourself with emergency phone.
- Follow the instructions on the emergency broadcasting carefully.

- Be calm and stay with your yara guide

- **Thursday 10:00 o’clock weekly test**
In case of evacuation

- Stay always as a group and listen to the evacuation leader of the building were you are.
- Pay attention on windvanes or plumes of the plants for indication of the wind direction.
safe
BY CHOICE
A company with a rich history, rooted in the region
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>Start production Ammoniumsulphate</td>
</tr>
<tr>
<td>1938</td>
<td>Nitric Acid and Calcium Ammoniumnitrate production</td>
</tr>
<tr>
<td>1940</td>
<td>During World War II huge destructions by bombings</td>
</tr>
<tr>
<td>1950</td>
<td>Restart plants after period of rebuilding</td>
</tr>
<tr>
<td>1958</td>
<td>Urea production (46%N)</td>
</tr>
<tr>
<td>1966</td>
<td>Switch from cokes gas to natural gas</td>
</tr>
<tr>
<td>Year</td>
<td>Event</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>1968</td>
<td>UAN production</td>
</tr>
<tr>
<td>1977</td>
<td>Ammoniumnitrate (33.5%N) production</td>
</tr>
<tr>
<td>1979</td>
<td>Development and practice of fluidized bed granulator technology</td>
</tr>
<tr>
<td>1979</td>
<td>Acquisition by Norsk Hydro</td>
</tr>
<tr>
<td>’80 – ’90</td>
<td>Big investments in ammonia production</td>
</tr>
<tr>
<td>2004</td>
<td>Demerger of fertilizer activities under trademark ‘Yara’</td>
</tr>
<tr>
<td>2011</td>
<td>Start of Urea 7 plant</td>
</tr>
<tr>
<td>2016</td>
<td>Start construction Urea 8 granulation plant</td>
</tr>
</tbody>
</table>
Key-indicators

Knowledge grows…
Key-indicators 2015

942 million euro turnover

604 employees, Incl. 31 OSS en R&D

4,991 kiloton product loaded

#1 in Yara Ammonia Nitrates Industrial products

15% TOTAL PRODUCTION VOLUME OF YARA COMPANY
Overview of production location
Key indicators 2015

135 hectares

2,0 billion Nm³ natural gas/yr

158 kilogram product loaded per second

-60% CO₂ reduction (since 2005)

100 ha built

80% as feedstock

24/7
Feedstock and Energy

High valorisation of energy and natural minerals
Ammonia, de backbone for fertilizers and nitrogen based chemicals
Energy-efficiency and environmental footprint

- **80%** Feedstock
- **20%** Fuel gas
  - Generation of heat and electricity by CHP units
  - 0.6 ton eq. CO₂/ton product
Products and processes
Ammonia, the backbone for fertilizers and nitrogen-based chemicals
Product portfolio and volumes

[Bar chart showing product volumes from 2005 to 2015 for different products: Urea Solutions, Urea Ammon. Nit., Urea Granulated, Urea Prilled, CAN, Ammonium Nitrate, AN Solution, Nitric Acid, CO2, Aqueous Ammonia, Ammonia]
Modal split (2015)

- **Seagoing vessels**: 2.892,762 ton (58%)
  - **Barges**: 1.175,870 ton (23%)
  - **Truck**: 840,806 ton (17%)
  - **Rail**: 81,553 ton (2%)

- **Barges**: 1.012
  - barges
  - 642
  - seagoing vessels
  - 1.514
  - rail wagons
  - 32.625
  - trucks
Destinations (2015)

Europe: 78%
Overseas: 22%

Europe: 3.874 kt
North America: 474 kt
South America: 606 kt
Africa: 34 kt
Asia: 3 kt
Innovation and sustainability
WarmCO2

-55,000,000 Nm$^3$ natural gas/yr

-135,000 ton CO$_2$/yr

1,000 New jobs created
Urea 7

420,000,000 Euro

4,200 ton/day

-35% energy consumption
Air-1®

823.000 ton
-85% NOx emissie
-3% Fuel saving
Ureum 8

240.000.000 Euro

S-urea specialities

-50% dust emission
N-sensor

-14% Nitrogen saving

6% Additional yield

Homogeneous, stress resistant crops
Many thanks for your attention

More information: www.yara.com or www.yara.nl