

# International Conference on Process Safety Performance Indicators

## Evonik's approach to PSPI

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### First PSPI: a lagging indicator



... first used in 2008:

word-wide  
collection of data

#### Minor incidents are already covered:

- fires, explosions, releases of hazardous substances, undesirable reactions or process situations
- controlling of the frequency, monitoring of the severity and consequences
  - substance releases: thresholds depend on hazardousness (toxicity, mobility/physical conditions) – 5, 25, 100, 300 kg
  - occupational accidents (LTI), relevant off-site consequences
  - fires, explosions: 20.000 € of direct costs

... in 2012 Evonik will  
adopt CEFIC criteria



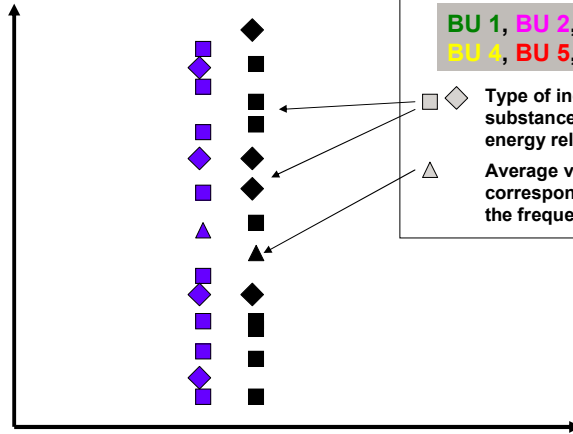
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2

## PSPI chart: frequency/severity



Severity: quantity released or damage caused relative to the reporting threshold



BU 1, BU 2, BU 3,  
BU 4, BU 5, BU 6

◆ Type of incident:  
substance release,  
energy release

▲ Average value  
corresponding to  
the frequency

Frequency: no. of incidents  
per 1 million working hours

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3

## Strategy based on the PSPi



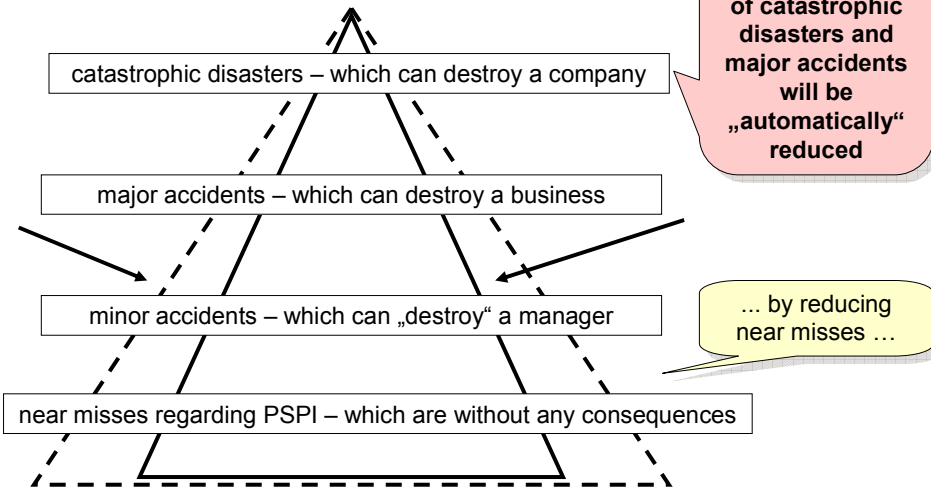
The number of releases as well as the sometimes considerable quantities involved have made top management more aware of the topic!

! Our strategy – by analogy with the occupational safety “accident pyramid” – is to reduce the probability of major accidents by systematically preventing minor incidents.

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4

## What is behind the idea of the accident pyramid in process safety?



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5

## Additional PSPI: a lagging indicator



Survey addressed to the managers of the production sites and facilities, to ascertain the awareness and the efforts of the business units management

- Responsibility and safety culture in process safety
- Not a complete picture of the performance of the particular production facility
- Included in regular audits or as self-assessments

- |  |  |
|--|--|
| 1. <b><u>targets or objectives/goals</u></b> | 6. <b>management of change</b>                                 |
| 2. <b>process safety expertise</b>           | 7. <b>inspection management</b>                                |
| 3. <b>lessons learned management</b>         | 8. <b><u>initiatives, programs, measures to improve PS</u></b> |
| 4. <b>incident management</b>                | 9. <b><u>regional leading indicators</u></b>                   |
| 5. <b>risk assesment</b>                     | 10. <b>audit findings in general</b>                           |

Evaluation with reference to levels 0 to 3:

**3 – „to be a good international practice for others within Evonik“**

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6