



issa

INTERNATIONAL SOCIAL SECURITY ASSOCIATION
ASSOCIATION INTERNATIONALE DE LA SÉCURITÉ SOCIALE
ASOCIACIÓN INTERNACIONAL DE LA SEGURIDAD SOCIAL
INTERNATIONALE VEREINIGUNG FÜR SOZIALE SICHERHEIT

Kurfürsten-Anlage 62
D-69115 Heidelberg
Deutschland

T: +49 6221 523460 / 597
F: +49 6221 523 593
E: nschurreit@bgchemie.de

Sektion für Prävention in der chemischen Industrie

www.issa.int/prevention-chemistry



issa

INTERNATIONAL SOCIAL SECURITY ASSOCIATION
ASSOCIATION INTERNATIONALE DE LA SÉCURITÉ SOCIALE
ASOCIACIÓN INTERNACIONAL DE LA SEGURIDAD SOCIAL
INTERNATIONALE VEREINIGUNG FÜR SOZIALE SICHERHEIT

Dynamostraße 7-11
D-68165 Mannheim
Deutschland

T: +49 / (0)621 - 44 56 - 2213
F: +49 / (0)621 - 44 56 - 2190
E: scholl@ivss.org

Sektion für Maschinen- und Systemsicherheit

www.issa.int/prevention-machines

ISSA „Explosion Protection“ Workshop 13 and 14 May 2009 at Frankfurt/Main

**Dr. Bernd Broeckmann,
Inburex Consulting GmbH, Germany**

“Reducing potentially explosive areas using selective ventilation!”

Regulations often contain blanket ventilation requirements for areas where flammable gases and liquids are handled. As a result, users lose their sense of how the factors influencing the rating of potentially explosive areas are interrelated. It is therefore important to consider how targeted use of the appropriate amounts of air can reduce the extent of potentially explosive areas.

The relevant emission sources represent the starting point in this respect. A number of examples are used to show how actual emission rates can be determined. This indicates in particular that many simplified approaches overestimate the evaporation rates from liquids.

The ventilation assessment must then be made in direct correlation with the emission rates determined. The following factors should be taken into account during this assessment:

- ➔ Ventilation arrangement/routing of air in the room
- ➔ Relative ventilation performance based on the possible emission rates
- ➔ Monitoring of ventilation and initiation of protective measures

A corresponding system analysis then enables a meaningful assessment of potentially explosive areas.

The author demonstrates how knowing these factors can also be used specifically to reduce the extent of potentially explosive areas.