Training on identification of hazardous activities
6-7 December 2011, Tashkent

Annex I of the Convention and Annex I of the SEVESO II Directive

two harmonised approaches for the same aim

Chemical accident

Stages of the chemical accident management cycle

Prevention

- The first line of defence against consequences of chemical accidents is to **prevent** their occurrence and to limit their impact if they do occur.

- **Prevention** is aimed at reducing the likelihood of chemical accidents occurring and reducing their severity if they do occur.

Prevention

- Important instrument for authorities to ensure proper accident prevention is:
- Implementation of international agreements,

- International agreements and regulations need to be implemented into national laws to be fully effective.

INTERNATIONAL REGULATIONS

- Global agreements

- Strategic Approach for the Sound Management of Chemicals (SAICM)
- ILO Convention 174 on the Prevention of Major Industrial Accidents
- UN Recommendations on the Transport of Dangerous Goods
- Globally Harmonized System for Classification and Labelling of Chemicals, GHS

❑Regional agreements

- UNECE Convention on the Transboundary Effects of Industrial Accidents
- The Seveso II Directive
- Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances
- Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations.

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures

UNECE Convention of Transboundary Effects of Industrial Accidents

- Applies to the prevention of, preparedness for and response to industrial accidents at sites where hazardous activities take place capable of causing transboundary effects.
- Aims at protecting human beings and the environment against industrial accidents by preventing such accidents as far as possible, by reducing their frequency and severity and by mitigating their effects

SEVESO II DIRECTIVE of the European Union

- Implements the TEIA convention in developing a framework for accident prevention.
- Seveso II Directive is intended firstly, to prevent major accidents involving dangerous substances, and secondly, as accidents do continue to occur, to limit their consequences for humans and the environment.

Identification of hazardous activities

- For the purpose of undertaking preventive measures it is needed to identify hazardous activities.
- Legislation that requires operators of hazardous activities to notify the competent authority about these activities
- Legislation should establish criteria for identifying hazardous sites.
- These criteria may be based on type and quantity of dangerous substances and their potential to cause harm to health and the environment.

Identification of hazardous activities

- For the same aim - Annex I to the Convention and Annex I to the Seveso II Directive, define substance and quantity criteria
- Annex I to the Convention and Annex I to the Seveso II Directive contain categories and named hazardous substances and threshold quantities for the purposes of defining hazardous activities.

Structure of Annex I of the Convention

Part I – Categories of substances and preparations not specifically named in Part II

Part II – Named substances

Named substances –
Substances of high concern /TDI,
Methyl isocyanate,
Phosgene, Chlorine/
Widely used substances /Ammonium nitrate,
LPG, Petroleum products/

Structure of Annex I of the SEVESO II Directive

Part I – Named substances

Part II - Categories of substances and preparations not specifically named in Part I

Categories of substances and preparations not specifically named
Based on generic toxicological, physical-chemical or ecotoxicological properties
Characteristic endpoints – LD50, LC50, EC50, flashpoint, etc.

Part I – Categories of substances and preparations not specifically named in Part II (Annex I of the Convention)

Category	Threshold Quantity (Tones)
1. Flammable (note 2)	50 000
2a. Highly flammable (note 3a and b) 	200
2b. Highly flammable (note 3c)	50 000
3. Extremely flammable (note 4) 	50
4. Toxic (note 5) 	200
5. Very toxic (note 6) 	20
6. Oxidizing (note 7) 	200
7a. Explosive, where the substance, preparation or article falls under Division 1.4 of the GHS criteria (note 8)	200
7b. Explosive, where the substance, preparation or article falls under Division 1.1, 1.2, 1.3, 1.5 or 1.6 of the GHS criteria (note 8) 	50
8a. Dangerous for the environment – "Toxic to aquatic organisms" (note 9)	500
8b. Dangerous for the environment – "Very toxic to aquatic organisms" (note 10) 	200

Part 2 – Categories of substances and preparations not specifically named in Part 1 (Annex I of the SEVESO II Directive)

Column 1	Column 2	Column 3
Categories of dangerous substances	**Qualifying quantity (tonnes) dangerous substances as delivered in Art.3(4), for the application of**	
	Articles 6 and 7	**Article 9**
1. Very toxic	**5**	**20**
2. Toxic	**50**	**200**
3. Oxidizing	**50**	**200**
4. Explosive (see note 2) where the substance, preparation or article falls under UN/ADR Division 1.4	**50**	**200**
5. Explosive (see note 2) where the substance, preparation or article falls under any of: UN/ADR Division 1.1, 1.2, 1.3, 1.5 or 1.6 or risk phrase R2 or R3	**10**	**50**

Column 1	Column 2	Column 3
Categories of dangerous substances	**Qualifying quantity (tonnes) dangerous substances as delivered in Art.3(4), for the application of**	
	Articles 6 and 7	**Article 9**
6. Flammable (where the substance or preparation falls within the definition given in note 3a)	**5 000**	**50 000**
7a. Highly flammable (where the substance or preparation falls within the definition given in note 3b 1)	**50**	**200**
7b. Highly flammable liquids (where the substance or preparation falls within the definition given in note 3b 2)	**5 000**	**50 000**
8. Extremely flammable (where the substance or preparation falls within the definition given in note 3c)	**10**	**50**

Column 1	Column 2	Column 3
Categories of dangerous substances	**Qualifying quantity (tonnes) dangerous substances as delivered in Art.3(4), for the application of**	
	Articles 6 and 7	**Article 9**
9. Dangerous for the environment risk phrases: i) R50: Very toxic to aquatic organisms (including R50/R53) ii) R51/R53: Toxic to aquatic organisms; may cause long term adverse effects in the aquatic environment	**100** **200**	**200** **500**
10. Any classification not covered by those given above in combination with risk phrases: i) R14: Reacts violently with water (including R14/R15) ii) R29: in contact with water, liberates toxic gas	**100** **50**	**500** **200**

Part II – Named substances (Annex I of the Convention)

Substance	Threshold Quantity (Tones)
1. Ammonium nitrate (note 11,12,13,14)	10.000/5.000/2.500/50
2. Potassium nitrate (note 15,16)	10.000/5.000
3. Chlorine	25
4. Ethylene oxide	50
5. Hydrogen	50
6. Toluene diisocyanate	100
7. Sulfur-trioxide	75
8. Lead alkyls	50
9. Phosgene	0,75
10. Methyl isocyanate	0,15
11. Liquefied extremely flammable gases (including LPG) and natural gas	200
12. Petroleum products: gasolines and naphthas; kerosens (including jet fuels); gas oils (including diesel fuels, home heating oils and gas oil blending streams)	25.000

Part 1 – Named substances (Annex I of the SEVESO II Directive)

Column 1	Column 2	Column 3
Dangerous substances	Qualifying quantity (tonnes) for the application of	
	Articles 6 and 7	Article 9
Ammonium nitrate (see note 1)	5 000	10 000
Ammonium nitrate (see note 2)	1 250	5 000
Ammonium nitrate (see note 3)	350	2 500
Ammonium nitrate (see note 4)	10	50
Potassium nitrate (see note 5)	5 000	10 000
Potassium nitrate (see note 6)	1 250	5 000
Bromine	20	100
Chlorine	10	25
Hydrogen	5	50

Column 1	Column 2	Column 3
Dangerous substances	**Qualifying quantity (tonnes) for the application of**	
	Articles 6 and 7	**Article 9**
Lead alkyls	**5**	**50**
Liquefied extremely flammable gases (including LPG) and natural gas	**50**	**200**
Ethylene oxide	**5**	**50**
Methylisocyanate		**0,15**
Toluene diisocyanate	**10**	**100**
Carbonyl dichloride (phosgene)	**0,3**	**0,75**
Sulphur trioxide	**15**	**75**
Petroleum products: a)gasolines and naphthas, b)kerosens (including jet fuels), c)gas oils (including diesel fuels, home heating oils and gas oil blending streams)	**2 500**	**25 000**

Determining the threshold quantities for the dangerous substances	
Annex I of the Convention	**Annex I of the SEVESO II Directive**
For named substances **Threshold quantities in Part II of Annex I** Mixtures and preparations – treated as the pure substance unless they no longer exhibit equivalent properties and are not capable of producing **transboundary effects**	**For named substances** **Threshold quantities in Columns 2 and 3 of Part 1 of Annex I** If in preparations Recalculation to pure substances As long as the preparations posses hazardous properties
For categories of substances and preparations not specifically named in Part II of Annex I **Threshold quantities in Part I of Annex I**	**For categories of substances and preparations not specifically named in Part 1 of Annex I** **Threshold quantities in Columns 2 and 3 of Part 2 of Annex I** If multiple classifications – the lowest threshold If in preparations As long as the preparations posses the hazardous properties

Annex I of the Convention

Where a substance or preparation named in Part II also falls within a category in Part I, the threshold quantity set out in Part II shall be used

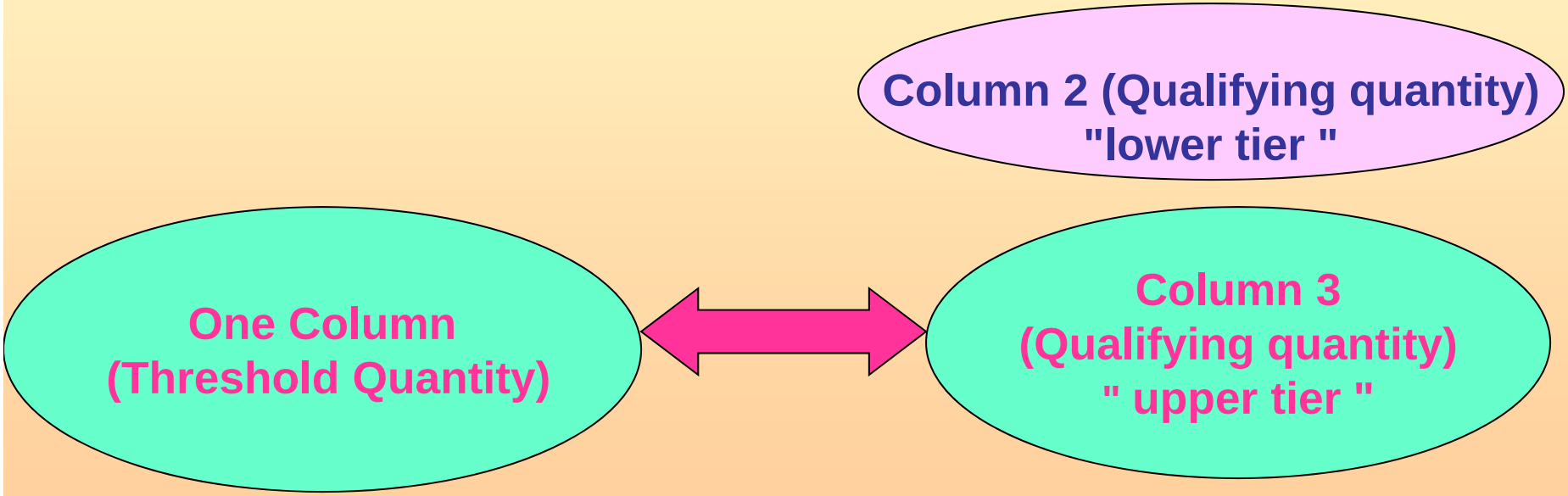
Annex I of the SEVESO II Directive

Where a substance or group of substances listed in Part I also falls within a category of Part II, the qualifying quantities set out in part I must be used

Qualifying quantities

Annex I of the Convention

Annex I of the SEVESO II Directive



Threshold quantities in Part I and Part II of Annex I of the Convention

are in compliance with adequate threshold quantities in Column 3 of Part 1 and Part 2 of Annex I of the SEVESO II Directive (upper-tier establishments)

Reservation

- The Community reserves the right as concernes the threshold quantities mentioned in Annex I, Part I, Nos 4, 5 and 6 to the Convention, to apply threshold quantities of 100 tonnes for bromine (very toxic substance), 5000 tonnes for methanol (toxic substance) and 2000 tonnes for oxygen (oxidising substance).

Explanatory Notes – Indicative criteria

- flammable liquids
- highly flammable liquids
- extremely flammable gases and liquids
- explosive

The same in the both Annexes

- toxic
- very toxic
- oxidizing
- dangerous for the environment

Annex I of the Convention

- **Ammonium nitrate – 4 notes**
- **Potassium nitrate – 2 notes**

The same in the both Annexes

Conclusion

- The scope of the Convention follows *one-tier approach* which means that for each named substance and for each generic category of substances and preparations, one *qualifying quantity* (threshold levels) is mentioned in Annex I, Parts I and II of the Convention, an upper value.

- The scope of the Seveso II Directive follows a *two-tier approach* which means that for each named substance and for each generic category of substances and preparations, two different *qualifying quantities* (threshold levels) are mentioned in Annex I, Parts 1 and 2 of the Directive, a lower and an upper value.

- According to Council Decision 98/685/EC of 23 March 1998, for EU member States all establishments covered by article 9 of Council Directive 96/82/EC of 9 December 1996 (Seveso II), i.e. upper-tier establishments, are taken to meet substance and quantity criteria under the Convention.

- **Two harmonised approaches for the same aim - identification of hazardous activities.**

THANK YOU FOR YOUR ATTENTION!