**ANNEX 1**

**CRITERIA USED BY HSE TO SELECT THE `TOP 10' SUBSTANCES**

The criterion used is to take 10 substances that:

A) give coverage of significant types of process plant or potential incident scenarios covered by SEVESO II, or

B) give coverage of the ***Toxic*** and ***Very Toxic*** classifications within Seveso II.

Therefore, the selected substances do not necessarily have a high tonnage within the UK, or be considered the most significant in terms of offsite risk.

**HSE'S `TOP 10' SUBSTANCES**

A) Substances covering types of process plant or potential incident scenario.

| Substance | Process/incident |
|---|---|
| Hydrogen Fluoride (HF) | Alkylation unit |
| Nitrogen Dioxide ($NO_2$) | Product from AN storage fire (representative of $NO_X$) |
| Hydrogen Chloride (HCl) | Product from water reactive chemical spills |
| Chlorine ($Cl_2$) | Pressure liquefied toxic gas installations |
| Hydrogen Sulphide ($H_2S$) | Pressure liquefied very toxic gas installations |
| Paraquat Dichloride ($C_{12}H_{14}Cl_2N_2$) | Solid that produces very toxic fumes in a fire |

B) Substances giving coverage of the ***Toxic*** and ***Very Toxic*** classifications.

| Substance | Coverage of classification |
|---|---|
| Methyl Chloroformate ($C_2H_3ClO_2$) | ***Very Toxic*** worst case |
| Methyl Iodide ($CH_3I$) | ***Toxic*** high volatility range, worst case |
| Propionitrile ($C_3H_5N$) | ***Toxic*** medium volatility range, worst case |
| Ethylene Dibromide ($C_2H_4Br_2$) | ***Toxic*** low volatility range, worst case |

Note: Methyl Chloroformate is currently misclassified in the Dangerous Substances Directive as ***Toxic*** rather than ***Very Toxic***.

(ACUTEX/10_substances_2B)