

(c) Activity at the facility during the inspection

The inspection took place while the STS was being produced and stored. The inspectors were able to observe visually the most important operations in the production of this substance.

(d) Composition of the inspection team

The inspection team was made up as follows:

- (i) A chemical expert representing the Ministry of Industry, Chemical Industries Sector;
- (ii) A chemical expert, representing the Ministry of Defence;
- (iii) A representative of the Ministry of Foreign Affairs;
- (iv) The director of the company's research department;
- (v) The production manager of the multi-purpose unit.

(e) Inspection equipment

The facility provided the inspection equipment (sampling and safety equipment). The use of safety equipment was obligatory in accordance with the safety regulations at the facility (safety goggles, masks, hard hats).

(f) Duration of inspection and initial visit

- (i) Initial visit            1/2 day
- (ii) Inspection            1 1/2 days

12. General description of the production process

(a) The multi-purpose unit at the facility under inspection produces 600-800 tonnes of the chemicals needed for the production process. The unit operates in accordance with a batch system. The inspection was carried out while the unit was producing STS.

(b) Toluene was transferred from tank "V-102" to the reaction vessel "R-101", where oleum was added to it from one of the two vessels "V-107" and "V-108". The sulphonation process was then carried out.

(c) The substance produced, which is an intermediate product, was poured into the vessel "V-105", where neutralization took place using sodium hydroxide, which resulted in the formation of the final product, which was pumped into the vessel "V-201".

(d) The product was then dried in order to assume its final form.

(e) A difference of 1/2 tonne (loss) in the quantity of toluene was observed on comparing the theoretical calculations with the actual measurements. The reasons for this were: