CHLORINATED SOLVENTS – PRODUCTION PROCESS

DOC-2900-0008

Principle

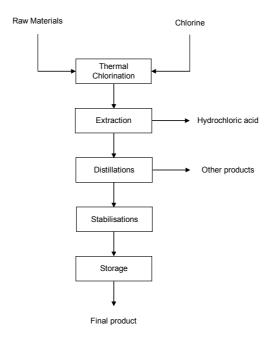
 Methylene chloride (CH₂Cl₂) and chloroform (CHCl₃) are manufactured by chlorination of purified methane:

$$\begin{split} & \mathsf{CH_4} + \mathsf{CI_2} \to \mathsf{CH_3CI} + \mathsf{HCI} \\ & \mathsf{CH_3CI} + \mathsf{CI_2} \to \mathbf{CH_2CI_2} + \mathsf{HCI} \\ & \mathsf{CH_2CI_2} + \mathsf{CI_2} \to \mathbf{CHCI_3} + \mathsf{HCI} \\ & \mathsf{CHCI_3} + \mathsf{CI_2} \to \mathsf{CCI_4} + \mathsf{HCI} \end{split}$$

• Perchloroethylene (C₂Cl₄) is manufactured by chlorination of compounds (chlorinated or not hydrocarbons) containing 1 to 3 carbons.

$$\begin{split} &\text{(C1 compounds)} + \text{CI}_2 \rightarrow \text{CCI}_4 + \text{HCI} \\ &\text{(C2 compounds)} + \text{CI}_2 \rightarrow \textbf{C}_2\textbf{CI}_4 + \text{HCI} \\ &\text{(C3 compounds)} + \text{CI}_2 \rightarrow \textbf{C}_2\textbf{CI}_4 + \textbf{CCI}_4 + \text{HCI} \end{split}$$

Flow chart



Product treatment

After chlorination, products are separated and purified by several distillation steps. The knowledge of the process and the control of these different steps allow reaching the expected purity for each grade.

Chlorinated solvents are stabilized by means of an anti-oxidizing agent, in order to prevent degradation in presence of oxygen and light. Other stabilisations have also been developed for specific uses.

Please contact us for further information on grades developed for a specific end-use.

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Solvay Chemicals International SA Rue de Ransbeek 310 B - 1120 Brussels Brussels, RPM 0406804736 +32 2 264 21 11

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