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Notes and miscellanea

Methylene chloride burns

A young man was asked to clean out the residues of an acetate methylene chloride mixture from the sides and bottom of an open vessel some 3ft (1 m) in diameter and 3ft 6ins (1·2 m) deep. He was instructed to use a detergent, hot water, scrubbing brush, and a scraper for the job, but as he had seen the maintenance engineer cleaning the pipework of acetate residue with methylene chloride, he decided that he would do likewise and obtained about two litres of the solvent in a bucket. He then climbed into the vessel with the bucket of solvent and started to clean the walls. The concentration of methylene chloride vapour rapidly built up within the vessel and he became unconscious, slumping into the bottom of the vessel and overturning the bucket containing the solvent as he did so.

Second and third degree burns on both legs.

After about 30 minutes the man was found, deeply unconscious and in severe shock. He was removed from the vessel and taken to hospital where he was admitted into the intensive care unit. He was given oxygen throughout his journey to hospital. On admission his blood pressure had dropped to 70/50 mm Hg and he was almost pulseless. He was immediately placed on a drip and at the same time blood was taken for haematological and biochemical analysis. His carboxyhaemoglobin concentration was found to be 12%, this level being measured some 60 minutes after having been rescued from the vessel and having received oxygen for the whole period.

He made a complete recovery and was discharged from hospital after eight days with a normal blood picture, normal liver function tests, and normal renal function. During the time that he was in the vessel the man sustained second and third degree burns to both legs but these areas were dry when he was discharged from hospital and he required no skin grafting. The burns were typical chemical burns and were not due to freeze burning as the temperature within the vessel was not sufficiently high to produce rapid evaporation of the methylene chloride at the time of the accident. The extent of the burns is shown in the figure. The areas affected were those that were taking the weight of his body while he was unconscious.

We believe that this is the first account of severe chemical burns resulting from methylene chloride.

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