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Chemical disposal of Sudan 3

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Expert Answer

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Sudan III is a biological dye that is used to test for fats, oils and waxes. It is not soluble in water and is typically made up in a 70% solution of ethanol (or methylated spirits).

The classification of Sudan III varies, with some manufacturers giving it a non-hazardous classification. Other sources classify the dye as a Category 2 carcinogen (suspected of causing cancer). When made up in 70% ethanol, the solution would nevertheless be classified as hazardous, due to the flammability of the ethanol.

Dyes, indicators and stains

It is important to be aware that dyes, indicators and stains may not be very pure, particularly in very old samples. Through their manufacture, they may contain hazardous impurities. Some dyes may be metabolised in the body to substances which are harmful. Sometimes there is limited or incomplete information regarding the hazards. Therefore, great care should be exercised when handling all dyes, indicators and stains.

Students should only use dilute solutions of dyes, indicators and stains; where the hazard is greatly reduced.

Therefore, although Sudan III dye may be classified as non-hazardous, it should be handled with great care.

Disposal of Sudan III

Disposal of Sudan III depends upon whether it is in solid form or in solution and the quantity involved.

- Where the dye is classified as non-hazardous, a small quantity of Sudan III in dilute (up to 0.5%) solution (say <20ml) used in science classes can be washed to waste
- Larger quantities of Sudan III in solution should be saved for disposal by a licenced chemical waste contractor
- In solid form, care should be taken to avoid generating or inhaling dust and to avoid skin contact. It should be saved for disposal by a licenced chemical waste contractor

References

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