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Cryogenic liquid safety for the DEAP-3600 experiment

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The DEAP-3600 experiment is a dark matter direct detection search using a large liquid argon scintillation detector located 2 km underground in SNOLAB. It uses 3.6 tonnes of liquid argon as a target and another 4 tonnes of liquid nitrogen as a cooling reservoir. If these cryogens were to quickly evaporate in an accident, they could pose a significant oxygen deficiency hazard to personnel. I will present the techniques the DEAP collaboration has developed to assess and mitigate this hazard in an underground environment.

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