You are a user of TBE buffer

We would like to remind you that boric acid and borate have been classified as CMR (Carcinogenic, Mutagenic, Reprotoxic), in this case, toxic for reproduction. Boric acid is one of the components of the TBE (Tris Borate EDTA) buffer, widely used in molecular biology (see attached material safety data sheet). You must wear a lab coat, gloves and safety goggles when handling it.

The use of boric acid, borate or TBE is strictly forbidden to pregnant women, and strongly discouraged to women planning to become pregnant.

You must use it under a fume hood and collect all liquid waste as CMR chemical waste (NEVER throw TBE down the sink, deposit 5l cans of waste in chemical storage rooms IGBMC South 1085, 3086 and 4083, ICS 2070 and 3011, CBI E1043 or E3026).

- If you use TBE for 32P-labelled radioactive molecules migration, you must collect the buffer as liquid radioactive waste, wait for radioactive decay (10 periods) and then transfer this “cold” waste to CMR liquid chemical waste.
- If you use TBE for agarose gels, you are also exposed to vapors in the case of microwave solubilization of agarose directly in the buffer. In this case, we recommend solubilizing the agarose in water and then adding the buffer once the temperature of the agarose has dropped to around 50°C.
- Other buffers to migrate agarose gels are available or have been tested : TAE (tris acetate EDTA), TPE (tris phosphate EDTA) or Tris/Glycine. Do not hesitate to test them.
- As a reminder, regardless of the migration buffer used for agarose gels containing a DNA intercalator, migration buffers must be treated with charcoal to eliminate the intercalator (see procedure below) before being properly disposed of (TBE in CMR liquid chemical waste).

Ethidium bromide (EtBr) is a toxic chemical and CMR (carcinogenic, mutagenic and reprotoxic). All other intercalating agents used to replace EtBr (SYBR-Green, SYBR-Safe, GelRed…) are also mutagenic and must be handled with the same precautions as EtBr !

Solid waste (agarose gels, cones, tubes) containing or having been in contact with a DNA intercalator (EtBr, SYBR-Green, SYBR-Safe, GelRed…) must be disposed of in yellow DASRI bins. EtBr liquid waste (migration buffers, staining baths) must under no circumstances be deposited directly at the chemical waste collection points in chemical stock rooms, but must be treated in accordance with the procedure below:

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Procedure for handling liquid waste containing EtBr (or other DNA intercalating agents)

Intercalating agents are retained by activated charcoal: 5 g of activated charcoal retain 1 mg of EtBr (or equivalent), i.e. the EtBr contained in 100 liters of migration buffer.

1. Collect activated charcoal from the self-service area opposite the “petits produits” (approx. 5g in a 50ml Falcon tube). Place the activated charcoal in a glass container (bottle or beaker).
2. Pour in migration buffer containing EtBr. If necessary, resuspend activated charcoal after each addition of buffer.

3. Leave for at least 48 hours.
4. Dispose of EtBr-free buffer down the drain, unless it contains TBE buffer and in this case, you must recover the buffer without EtBr and dispose of as liquid toxic chemical waste in chemical storage rooms! (filter the buffer on filter paper in a funnel to recover charcoal).
5. Repeat the procedure from point 2 until all 5 g of activated charcoal have been in contact with 1 mg of EtBr or 100 liters of buffer. Note the theoretical amount of EtBr captured or the number of liters of buffer treated on the container.
6. Once the activated charcoal is saturated with EtBr, place it in a 50 ml falcon tube and dispose of in a yellow DASRI bin.

Thank you for following this procedure

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