

Trichloroethylene (TCE) Cleanup

Trichloroethylene (TCE) can be harmful in drinking water. TCE can be removed by a reaction with potassium permanganate, which is pink in solution.

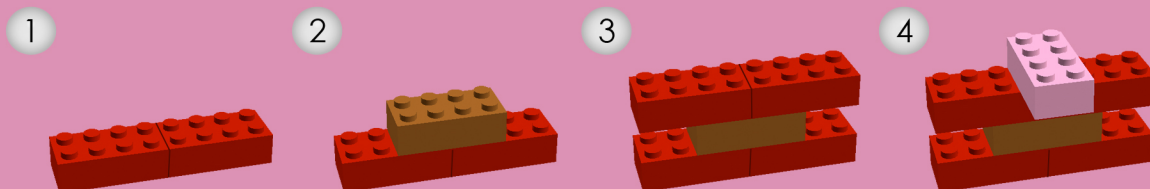
Model this chemical reaction. Build the reactants with LEGO® bricks. Place them on their pictures.

C_2Cl_3H
(trichloroethylene)

$KMnO_4$
(potassium permanganate)

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How to build $KMnO_4$ (potassium permanganate):



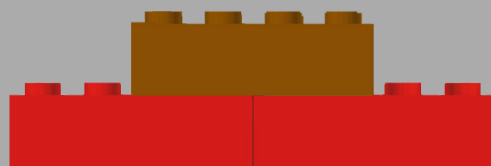
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When the new products are formed, the pink color of the potassium permanganate disappears.

- 1 Take apart the reactants from Side 1. Build the carbon dioxide and manganese dioxide below with the same LEGO® bricks.



(carbon dioxide)



(manganese dioxide)

- 2 The atoms left over are ions. An ion is an atom or molecule that has gained or lost electrons. This gives the ion a positive or negative electrical charge.



(hydrogen ion)



(chloride ions)



(potassium ions)