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| Substance                                                  | Hazard                                   | Comment                                                                                                                                                                                                                     |
|------------------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Barium chloride<br>Solid                                   | τοχις                                    | DANGER: toxic if swallowed, harmful if inhaled.<br>For a 15-minute exposure, the concentration of<br>barium should not exceed 1.5 mg m <sup>-3</sup> .                                                                      |
| <b>Barium chloride</b><br>Solution<br>(if 0.4 M or more)   | HARMFUL                                  | WARNING: harmful if swallowed.                                                                                                                                                                                              |
| <b>Barium chloride</b><br>Solution<br>(if less than 0.4 M) | Currently not classified<br>as hazardous | _                                                                                                                                                                                                                           |
| Barium nitrate(V)<br>Solid<br>Barium peroxide<br>Solid     | OXIDISING HARMFUL                        | DANGER: oxidiser; harmful if swallowed or inhaled.<br>For a 15-minute exposure, the concentration of<br>barium should not exceed 1.5 mg m <sup>-3</sup> .                                                                   |
| Barium nitrate(V) Solution                                 | Currently not classified<br>as hazardous | -                                                                                                                                                                                                                           |
| Barium sulfate(VI)<br>Solid                                | Currently not classified<br>as hazardous | Unlike most barium compounds, barium sulfate(VI) is<br>currently not classified as hazardous because it does<br>not dissolve in water or acids. Hence it is safe to eat a<br>'barium (sulfate) meal', before being X-rayed. |

## Typical control measures to reduce risk

- Use the lowest concentration possible.
- Use the smallest quantity possible.
- Wear eye protection.
- Wash hands after transferring/dispensing barium compounds.

## Assessing the risks

- What are the details of the activity to be undertaken? What are the hazards?
- What is the chance of something going wrong? eg, somebody drinking a toxic solution by mistake.
- How serious would it be if something did go wrong?
- How can the risk(s) be controlled for this activity? eg can it be done safely? Does the procedure need to be altered? Should goggles or safety spectacles be worn?

## **Emergency action**

In all emergency situations, alert the responsible adult immediately. Be aware that actions may include the following:

| • In the eye                     | Irrigate the eye with gently-running tap water for at least 20 minutes. Call<br>999/111.                                                                                                                 |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| In the mouth/swallowed           | Do no more than rinse and spit with drinking water. Do <b>not</b> induce vomiting. Call<br>999/111.                                                                                                      |
| • Spilt on the skin or clothing  | Brush solid off contaminated clothing and remove clothing. Irrigate the affected area with gently-running tap water for at least 20 minutes as appropriate. Call 999/111 as appropriate. Rinse clothing. |
| • Spilt on the floor, bench, etc | Scoop up any solid. Try to avoid raising dust. Rinse the area with water, diluting greatly. Solutions should be treated with mineral absorbent (eg cat litter).                                          |