

Its density is 48, while that of ordinary oxygen is 32 ( $H = 2$ ). As we shall see later, the molecule of oxygen is composed of two atoms; that of ozone is composed of three atoms.



Ozone has chemical properties similar to those of oxygen, but it is more active. It is reconverted into oxygen by heating to  $300^\circ$ .

As we continue our study of chemistry, we shall find several examples of elements that exist, like oxygen, in two or more very different forms; hence, we have a term to express this.

*Allotropy is the property exhibited by certain elements of existing in two or more distinct forms. Such elements are said to be allotropic.*

#### QUESTIONS

1. Describe the preparation of oxygen, *with a sketch of the apparatus employed.*
2. Why does a sudden puff of fresh air put out the flame of a candle?
3. Why should oily waste be put into metal boxes and not thrown into corners?
4. Give two reasons for the extinguishing of a fire when plenty of water is poured on it.
5. When we wish to light a hard-coal fire, why do we use (a) paper, (b) kindling-wood (or charcoals)? Why is it that the stove itself does not take fire?
6. Do we know of any examples of combustion that do not produce light? Any light not due to combustion?
7. A little mercury is placed in a large flask which is then sealed up and weighed. The whole is heated for some days, till the mercury is partly converted into oxide, and then it is weighed again. No change in weight has taken place. How do you account for this? The flask is then carefully opened and again weighed, and a gain in weight is observed. How do you account for it?
8. Describe, *with a figure*, the method of collecting gases over the pneumatic trough.
9. How might the experiment of preparing oxygen from potassium chlorate be carried out quantitatively?