



Molecular mass: 190.23
 Atomic number: 76
 Melting point: 3045°C

Osmium

Osmium – Fixing Agent for Modern Microscopy

| Compound | Formula | Product Code | Metal Contained | CAS |
|---|--|--------------|-----------------|------------|
| Osmium(III) chloride hydrate | $\text{OsCl}_3 \cdot n \text{H}_2\text{O}$ | 89.880.097 | appr. 55 % | 14996-60-2 |
| Osmium(VIII) oxide | OsO_4 | 89.740.201 | appr. 75 % | 20816-12-2 |
| Osmium(VIII) oxide solution | OsO_4 | 89.740.207 | up to appr. 3 % | 20816-12-2 |
| Potassium hexachloroosmate(IV) | $\text{K}_2[\text{OsCl}_6]$ | 89.740.203 | appr. 39 % | 16871-60-6 |
| Potassium tetrahydrodioxoosmate(VI) "Potassium Osmate" | $\text{K}_2[\text{Os}(\text{O})_2(\text{OH})_4]$ | 89.740.202 | appr. 52 % | 10022-66-9 |

| Molecular Mass | Color |
|----------------|--------|
| 296.56 a.c. | black |
| 254.20 | yellow |
| | yellow |
| 481.12 | red |
| 368.43 | violet |

Osmium is only required in small quantities and for quite specific applications.

Osmium(VIII) oxide in the form of aqueous solutions is used for the fixing of thin tissue sections. Thus, the tissue can be examined with transmission electron microscopy. The heavy metal osmium enhances the contrast by diffraction. Prefixing with aldehydes improves the preservation of the structure of the sample. There is a need for using osmium(VIII) oxide in buffer solutions in order to maintain the pH value of the sample.

Osmium(VIII) oxide made by Heraeus is characteristic for its very fine crystals and – therefore – its excellent solubility. Osmium(VIII) oxide is one of the most toxic precious metal chemicals that are

synthesized in our plants. Our staff are skilled in manufacturing, handling and packaging the range of osmium products. Care is always taken to send material of the highest quality in line with all safety regulations.

Osmium(VIII) oxide and potassium tetrahydrodioxoosmate(VI) can oxidize alkenes into cis-1,2-diols ("Dihydroxylation")



According to customer's requirements, packaging is possible in lots down to ampoules of 0.1 g osmium(VIII) oxide. Aqueous solutions are available as well.



Nerve fibre fixed by using osmium(VIII) oxide