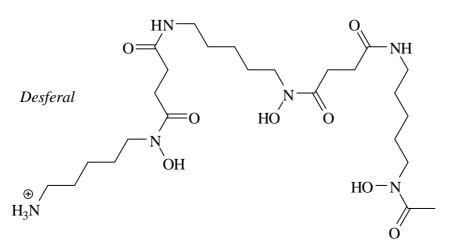
Marks

3

• Hemochromatosis or "iron overload" is a potentially fatal disorder in which excess iron is deposited in the bodily organs as insoluble hydrated iron(III) oxide. It can be treated by administration of desferioxamine B (*Desferal*), a natural substance isolated from fungi.



Desferal is taken over 8-12 hour periods up to six times per week. A value of $\log K = 30.6$ is associated with the following equilibrium:

 $\operatorname{Fe}^{3+} + \operatorname{LH}_{3}^{+} \Longrightarrow \operatorname{FeL}^{+} + 3\operatorname{H}^{+} \text{ where } \operatorname{LH}_{3}^{+} = Desferal$

Briefly describe the chemical basis for the use of *Desferal* in iron overload therapy.