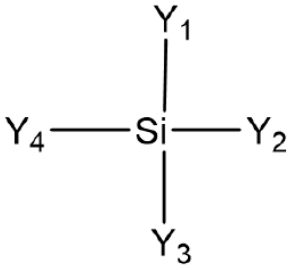
Given the constraints described above, alternative solutions for tanning the hides are necessary for the sustainability of the leather sector. There therefore remains a need to have a process for tanning hides which would avoid the use of metals in general, and in particular chrome, in order to obtain leathers guaranteeing the safety of employees of companies in the leather sector, consumer protection (safety), recovery of leather waste (production scraps or end-of-life articles) and environmental protection. There remains therefore a need for a process for tanning hides allowing to obtain tanned hides capable of being easily detanned. There also remains a need for a process for detanning such hides, allowing to recover tanned hides and leathers.

In one aspect, the present disclosure refers to a process for tanning hides ready to be tanned comprising the following steps:

- A) The hides ready to be tanned are soaked in a fuller in an aqueous solution and the pH of the hides and of the aqueous solution is brought to a value ranging from 1.5 to 10.5 by adding an acid or a base,
- B) the hides from step A) are treated using a tanning solution consisting of, by mass relative to the mass of the hides:
    - 1 to 1200% of water,
    - optionally, a sufficient quantity of salt to prevent swelling of the hides, and
    - 1 to 100% of a compound of formula (I):

[Chem 1]



(I)

in which Y1, Y2, Y3 and Y4 are chosen independently of each other as a halogen atom, a $-[OSiO_mR^1{}_{3-m}]_n$ group or an $-OR^2$ group, two or more $-[OSiO_mR^1{}_{3-m}]_n$ and $-OR^2$ groups which can be connected to each other by a covalent bond, in which:

- m is an integer ranging from 0 to 3, n is an integer greater than or equal to one, and R^1 is chosen as a hydrogen atom, a C_1-C_{10} alkyl group, an aryl group, a C_2-C_{10} alkenyl group, a C_2-C_{10} alkynyl group, a polyalkylene oxide

group or its derivatives, R^1 being optionally substituted by one or several amine, ammonium, amide, ketone, ester, aldehyde, thiol or thioether groups,

- R^2 is chosen as a hydrogen atom, a C_1-C_{10} alkyl group, an aryl group, a C_2-C_{10} alkenyl group, a C_2-C_{10} alkynyl group, a polyalkylene oxide group or its derivatives, R^2 being optionally substituted by one or several amine, ammonium, amide, ketone, ester, aldehyde, thiol or thioether groups,

said hides being treated using said tanning solution until penetration of the hides by said tanning solution,

- C) optionally, the pH of the hides obtained at the end of step B) is brought to a value ranging from 2.1 to 10.5, preferably ranging from 4.0 to 8.0.

In another aspect, the present disclosure refers to a method for preparing leathers from raw hides comprising the following steps:

- i) a step of preparing the raw hides in order to obtain hides ready to be tanned,
- ii) a step of tanning the hides ready to be tanned, said tanning step being carried out in accordance with the tanning process as defined above,
- iii) a step of grinding and/or finishing the tanned hides obtained at the end of step ii) in order to obtain finished leathers.

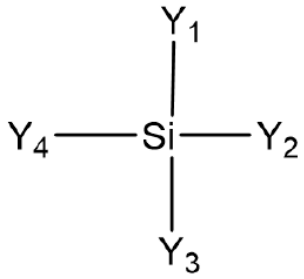
In another aspect, the present disclosure refers to a process for detanning hides as defined above and/or obtained by the process as defined above and/or finished leathers obtained as defined above, comprising at least one step during which said hides and/or leathers are soaked in a basifying solution in order to bring the pH of said hides and/or leathers to a value greater than or equal to 10.5, preferably to a value ranging from 11.5 to 13.0.

The present invention relates to a process for tanning hides ready to be tanned comprising the following steps:

- A) The hides ready to be tanned are soaked in a fuller in an aqueous solution and the pH of the hides and of the aqueous solution is brought to a value ranging from 1.5 to 10.5 by adding an acid or a base,
- B) the hides from step A) are treated using a tanning solution consisting of, by mass relative to the mass of the hides:
    - 1 to 1200% of water,

- optionally, a sufficient quantity of salt to prevent swelling of the hides, and
- 1 to 100% of a compound of formula (I):

[Chem 1]



(I)

in which Y1, Y2, Y3 and Y4 are chosen independently of each other as a halogen atom, a $-[OSiO_mR^1{}_{3-m}]_n$ group or an $-OR^2$ group, two or more $-[OSiO_mR^1{}_{3-m}]_n$ and $-OR^2$ groups which can be connected to each other by a covalent bond, in which:

- m is an integer ranging from 0 to 3, n is an integer greater than or equal to one, and R^1 is chosen as a hydrogen atom, a C_1-C_{10} alkyl group, an aryl group, a C_2-C_{10} alkenyl group, a C_2-C_{10} alkynyl group, a polyalkylene oxide group or its derivatives, R^1 being optionally substituted