CLAIMS

1. A sensing electrode comprising a carbon electrode and a functional moiety covalently attached to a surface of said electrode, said functional moiety being such that forms a charge-transfer complex with a nitro-containing compound.

2. The electrode of claim 1, wherein said carbon electrode is gas-permeable.

3. The electrode of claim 1 or 2, wherein said functional moiety comprises an electron donating moiety.

4. The electrode of any one of claims 1 to 3, usable for determining a presence and/or level of a nitro-containing compound in a sample, upon integrating the electrode in an electrochemical cell which further comprises an electrolyte.

5. A sensing system comprising a sensing electrode according to any one of claims 1 to 4, the sensing electrode being connectable to a power source.

6. The system of claim 5, further comprising an electrolyte solution in contact with said sensing electrode.

7. The system of claim 6, wherein said electrolyte features a pH lower than 8, or lower than 7.

8. The system of any one of claims 5 to 7, being devoid of means for deaerating the system prior to contacting the system with a sample.

9. The system of any one of claims 5 to 8, wherein said sensing electrode forms a part of an electrochemical cell, and wherein said electrochemical cell is configured such that upon contacting a sample containing a nitro-containing compound with said sensing electrode, a presence and/or level of an electrochemical parameter generated in response to applying potential

to said sensing electrode is indicative of a presence and/or level of the nitro-containing compound.

10. A method of detecting a nitro-containing compound in a sample, the method comprising:

contacting the sample with a sensing electrode according to any one of claims 1 to 4;

applying potential to said sensing electrode; and

measuring an electrochemical parameter of said sensing electrode, wherein a presence and/or level of said parameter is indicative of a presence and/or level of the nitro-containing compound in the sample.

11. The method of claim 10, being devoid of deaerating the system.

12. The method of claim 10 or 11, wherein the sample comprises oxygen.

13. The method of any one of claims 10 to 12, wherein contacting the sample with the sensing electrode comprises contacting an electrolyte solution comprising the sample with the sensing electrode.

14. The method of claim 13, wherein a concentration of dissolved oxygen in said electrolyte is at least 1 ppm.

15. A process of preparing the electrode of any one of claims 1 to 4, the process comprising:

coupling to a carbon electrode featuring a plurality of a first reactive group on at least a portion of its surface and a compound featuring said functional moiety and a second reactive group that forms a covalent bond with said first reactive group,

thereby preparing the electrode.