Health Canada Santé Canada

STATUS DECISION OF CONTROLLED AND NON-CONTROLLED SUBSTANCE(S)

Substance: Phosphorous acid

Based on the current information available to the Office of Controlled Substances, it appears that the above substance is:

Controlled	X
Not Controlled	☐

under the schedules of the *Controlled Drugs and Substances Act* (CDSA) for the following reason(s):

- Phosphorous acid is a derivative of hypophosphorous acid and is therefore included in Part I of Schedule VI to the CDSA

Supporting document(s) attached:

Prepared by: _____ Date: _____
SHEREEN KHAN

Verified by: See email Date: _____
MICHAEL LEBELLE

Approved by: _____ Date: _____
DIRECTOR, OFFICE OF CONTROLLED SUBSTANCES

Drug Status Report

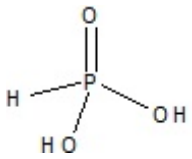
Drug: Phosphorous acid

Drug Name Status: Phosphorous acid is the common name.

Chemical Name: Phosphonic acid

Other Names: Orthophosphorous acid; dihydroxyphosphine oxide

Chemical structure:



Phosphorous acid

Molecular Formula: H_3PO_3

Pharmacological class / Application: reducing agent

International status:

US: It has been recognized that hypophosphorous and phosphorous acids may be used as reducing agents in the hydrogen iodide catalysed reductions[1]. However, it is unclear from the DEA website whether hypophosphorous and phosphorous acid are listed as precursor chemicals.

United Nations: Hypophosphorous and phosphorous acids are not included in the Red List - List of Precursors .... Under International Control.

Canadian Status: "Hypophosphorous acid, its salts and derivatives" was added[2] to Part I of Schedule VI to the CDSA. Its structure is shown on the next page.

Hypophosphorous acid is more correctly known as phosphinic acid. The nomenclature of the phosphorus oxy acids has been somewhat confused due to the number of common names associated with the acids. The confusion has been compounded by the incorrect spelling of the element phosphorus as phosphorous.

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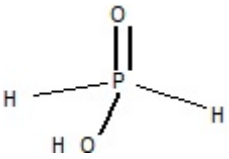
[1] SC. DiPari, JA. Bordelon, and HF. Skinner, Microgram Journal, Vol. 1 (2003).

[2] SOR/2005-364



Hypophosphorous acid

Hypophosphorous acid is a strong reducing agent. This can be represented as follows:

$$H_3PO_2 + H_2O \quad \rightarrow \quad H_3PO_3 + 2H^+ + 2e^-$$

Phosphorous acid (H_3PO_3) is derived from hypophosphorous acid during this reaction.

Recommendation: Phosphorous acid is a derivative of hypophosphorous acid and is therefore included in Part I of Schedule VI to the CDSA.

March 15, 2006