

suspensions). Included in the Canadian Natural Health Products Ingredients Database. Also included in parenteral and nonparenteral products licensed in the UK.

### 17 Related Substances

Potassium bisulfite; sodium metabisulfite.

#### Potassium bisulfite

*Empirical formula*  $\text{KHSO}_3$

*Molecular weight* 120.2

*CAS number* [7773-03-7]

*Synonyms* E228; monopotassium sulfite; potassium acid sulfite; potassium bisulphite; potassium hydrogen sulfite.

*Comments* Accepted in Europe as a food additive in certain applications. Included in food and pharmaceutical applications similarly to potassium metabisulfite.

### 18 Comments

Potassium metabisulfite is used in applications similar to those of sodium metabisulfite in the food, brewing, and wine making industries. Like all sulfites, potassium metabisulfite is not recommended for use in foods that are a source of thiamin, owing to the instability of the vitamin in their presence. Such foods include meat, raw fruits and vegetables, fresh potatoes, and foods that are a source of vitamin B<sub>12</sub>.

A specification for potassium metabisulfite is contained in the *Food Chemicals Codex* (FCC).<sup>(17)</sup>

The EINECS number for potassium metabisulfite is 240-795-3. The PubChem Compound ID (CID) for potassium metabisulfite includes 28019 and 516928.

### 19 Specific References

- Higuchi T, Schroeter LC. Reactivity of bisulfite with a number of pharmaceuticals. *J Am Pharm Assoc (Sci)* 1959; 48: 535–540.
- Garren KW, Repta AJ. Incompatibility of cisplatin and Reglan Injectable. *Int J Pharm* 1985; 24: 91–99.
- Brawley V, et al. Effect of sodium metabisulphite on hydrogen peroxide production in light-exposed pediatric parenteral amino acid solutions. *Am J Health Syst Pharm* 1998; 55: 1288–1292.
- Richards RME, Reary JME. Changes in antibacterial activity of thiomersal and PMN on autoclaving with certain adjuvants. *J Pharm Pharmacol* 1972; 24(Suppl.): 84P–89P.

- Collins AJ, et al. Incompatibility of phenylmercuric acetate with sodium metabisulfite in eye drop formulations. *J Pharm Pharmacol* 1985; 37(Suppl.): 123P.
- Nater JP. Allergic contact dermatitis caused by potassium metabisulfite. *Dermatologica* 1968; 136(6): 477–478.
- Vena GA, et al. Sulfite contact allergy. *Contact Dermatitis* 1994; 31(3): 172–175.
- Brayfield A (ed), *Martindale: The Complete Drug Reference*. [online] London: Pharmaceutical Press <http://www.medicinescomplete.com/> (accessed on 25 September 2013).
- Twarog FJ. Metabisulfite sensitivity in asthma: a review. *N Engl Reg Allergy Proc* 1983; 4(2): 100–103.
- Mathison DA, et al. Precipitating factors in asthma: aspirin, sulfites, and other drugs and chemicals. *Chest* 1985; 87(Suppl.): 50S–54S.
- Anonymous. Sulfites in drugs and food. *Med Lett Drugs Ther* 1986; 28: 74–75.
- Belchi-Hernandez J, et al. Sulfite-induced urticaria. *Ann Allergy* 1993; 71(3): 230–232.
- Anonymous. Warning for prescription drugs containing sulfites. *FDA Drug Bull* 1987; 17: 2–3.
- The UK Department of Health. Annual report of the Committees on Toxicity, Mutagenicity, Carcinogenicity of Chemicals in Food, Consumer products and the Environment. London: HMSO 1991.
- FAO/WHO. Evaluation of certain food additives. Fifty-first report of the joint FAO/WHO Expert Committee on Food Additives. *World Health Organ Tech Rep Ser* 2000: No. 891.
- Science Lab. Material Safety Data Sheet: Potassium Metabisulfite. <http://www.sciencelab.com> (accessed 25 September 2013).
- Food Chemicals Codex*. [online] Bethesda, MD: United States Pharmacopeia. <http://publications.usp.org> (accessed 31 March 2017).

### 20 General References

- Smolinske SC. *Handbook of Food, Drug and Cosmetic Excipients*. Boca Raton, FL: CRC Press, 1992; 393–406.
- Valade J-P, Le Bras G. Sulfur dioxide release from effervescent tablets. *Rev Fr Oenol* 1998; 171: 22–25.

### 21 Authors

PJ Sheskey, ES Foan.

### 22 Date of Revision

4 May 2017.

## Potassium Metaphosphate

### 1 Nonproprietary Names

USP–NF: Potassium Metaphosphate

### 2 Synonyms

E452; *Europhos KMP FG*; potassium Kurrol's salt; potassium polymetaphosphate; potassium polyphosphate.

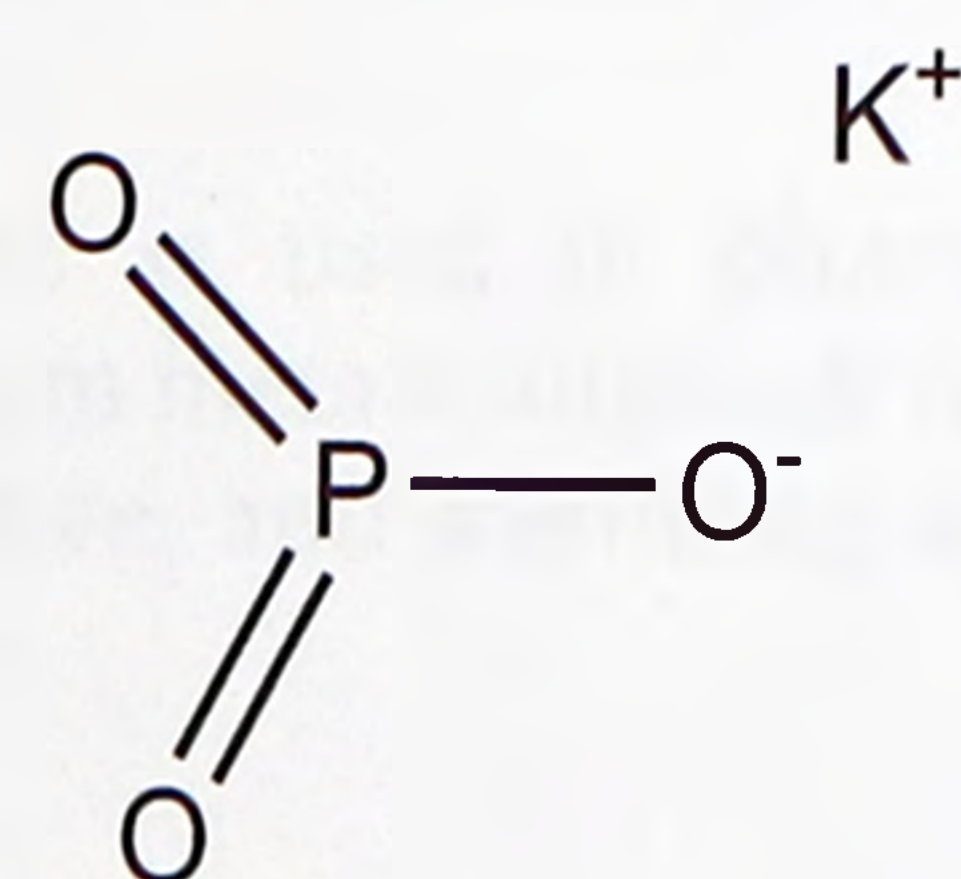
### 3 Chemical Name and CAS Registry Number

Potassium metaphosphate [7790-53-6]

### 4 Empirical Formula and Molecular Weight

$\text{KPO}_3$  118.07

### 5 Structural Formula



The USP 40–NF 35 S1 describes potassium metaphosphate as a straight-chain polyphosphate, having a high degree of polymerization. It contains the equivalent of not less than 59.0 percent and not more than 61.0 percent of  $\text{P}_2\text{O}_5$ .