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ProductInformation

Cobalt(II) chloride hexahydrate

Product Number **C 2644**
Store at Room Temperature

Product Description

Molecular Formula: $CoCl_2 \bullet 6H_2O$
Molecular Weight: 237.9
CAS Number: 7791-13-1
Synonyms: cobaltous chloride, cobalt dichloride

Cobalt chloride is utilized in commercial applications such as electroplating, catalyst preparation, painting on glass and porcelain, and in the manufacture of vitamin B_{12}. It is also used as a humidity and water indicator; when cobalt chloride is used with desiccants, it will change from blue to pink upon absorption of moisture. Cobalt chloride is also used as an additive in fertilizer and feed.[1]

Cobalt chloride produces reticulocytosis and increased erythrocyte count in humans.[2] It is also a chemical inducer of hypoxia-inducible factor-1.[3] Cobalt chloride has been studied in the treatment of inflamed human skin with heavy metals and subsequent expression of heat shock proteins.[4] A study on cobalt chloride-induced chromosomal aberrations in mice has been published.[5]

Cobalt chloride has been used as a stabilizer for reconstitution of the radiopharmaceutical technetium-99m exametazime.[6]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in water (100 mg/ml), yielding a clear, red solution.

References

1. The Merck Index, 12th ed., Entry# 2498.
2. Martindale: The Extra Pharmacopoeia, 31st ed., Reynolds, J. E. F., ed., The Pharmaceutical Press (London, England: 1996), p. 1692.
3. Piret, J. P., et al., $CoCl_2$, a chemical inducer of hypoxia-inducible factor-1, and hypoxia reduce apoptotic cell death in hepatoma cell line HepG2. Ann. N.Y. Acad. Sci., **973**, 443-447 (2002).
4. Nordlind, K., Expression of heat shock proteins in heavy metal-provoked inflamed human skin. Immunopharmacol. Immunotoxicol., **24(3)**, 383-394 (2002).
5. Palit, S., et al., Chromosomal aberrations induced by cobaltous chloride in mice *in vivo*. Biol. Trace Elem. Res., **29(2)**, 139-145 (1991).
6. Gartshore, G., et al., Evaluation of technetium-99m exametazime stabilised with cobalt chloride as a blood flow tracer in focal cerebral ischaemia. Eur. J. Nucl. Med., **21(9)**, 913-923 (1994).

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