

**55 mm**  **For use only by registered medical practitioners, hospitals or laboratories.**  **PHARMALGAN®** PARACETAMOL INFUSION 10 mg/ml FOR INTRAVENOUS INFUSION ONLY  **COMPOSITION:** Each ml contains: Paracetamol B.P.....10 mg Water for injections B.P.....q.s.  **PHARMACODYNAMIC PROPERTIES:** The precise mechanism of the analgesic and antipyretics properties of paracetamol has yet to be established: it may involve central and peripheral action.  **PHARMACOKINETIC PROPERTIES:** **ABSORPTION:** Paracetamol pharmacokinetics is linear up to 2g after single administration and after repeated administration during 24 hours. The maximal plasma concentration (Cmax) of paracetamol observed at the end of 15-minutes intravenous infusion of 500mg and 1g of PHARMALGAN® is about 15µg/ml and 30µg/ml respectively.  **DISTRIBUTION:** The volume of distribution of paracetamol is approximately 1L/Kg. Paracetamol is not extensively bound to plasma proteins.  **METABOLISM:** Paracetamol is metabolised mainly in the liver following two major hepatic pathways: glucuronic acid conjugation and sulphuric acid conjugation. The later route is rapidly saturable at doses that exceed the therapeutic doses.  **ELIMINATION:** The metabolites of paracetamol are mainly excreted in the urine; 90% of the dose administered is excreted within 24 hours, mainly as glucuronide (60 – 80%) and sulphate (20 – 30%) conjugates. Less than 5% is eliminated unchanged. Plasma half life is 2.7 hours and total body clearance is 18 L/h.  **THERAPEUTIC INDICATION:** PHARMALGAN® is indicated for the short term treatment of moderate pain, especially following surgery, and for the short term treatment of fever, when administration by intravenous route is clinically justified by an urgent need to treat pain or hyperthermia and/or when other routes of administration are not possible.  **POSOLOGY AND METHOD OF ADMINISTRATION:** Intravenous use. The 100 ml dosage is restricted to adults, adolescents and children weighing more than 33 Kg (approximately 11 years old). The 50 ml dosage is restricted to term newborn infants, infants, toddlers and children weighing less than 33 Kg.  **Posology:**   - Adolescents and adults weighing more than 50 Kg: PHARMALGAN® 1g per administration, i.e. one 100 ml bottle, up to four time a day. The minimum interval between each administration must be 4 hours. The maximum daily dose must not exceed 4 g. - Children weighing more than 33 Kg (approximately 11 years old), adolescents and adult weighing less than 50 Kg: PHARMALGAN® 15 mg/Kg per administration, i.e. 1.5 ml solution per Kg upto four times a day. The minimum interval between each administration must be four hours. The maximum daily dose must not exceed 60 mg/Kg (without exceeding 3g).   **INTERACTION WITH OTHER MEDICINAL PRODUCTS AND OTHER FORMS OF INTERACTION:** Probencid causes an almost 2-fold reduction in clearance of paracetamol by inhibiting its conjugation with glucuronic acid. A reduction in the paracetamol dose should be considered if it is to be used concomitantly with Probencid.   - Salicylamide may prolong the elimination  $t_{1/2}$  of paracetamol. - Caution should be taken with the concomitant intake of enzyme-inducing substances.	➤ Children weighing more than 10 Kg (approximately 1 year old) and weighing less than 33 Kg: PHARMALGAN® 15 mg/Kg per administration, i.e. 1.5 ml solution per Kg upto 4 times a day. The minimum interval between each administration must be 4 hours. The maximum daily dose must not exceed 60 mg/kg (without exceeding 2g)  **PREGNANCY AND LACTATION:** **Pregnancy:** Clinical experience of the intravenous administration of paracetamol is limited. However, epidemiological data from the use of oral therapeutic doses of paracetamol indicate no undesirable effects in pregnancy or on the health of the fetus/newborn infant. Prospective data on pregnancies exposed to overdoses did not show any increase in the risk of malformation.  **Severe renal insufficiency:** It is recommended, when giving PHARMALGAN® to patients with severe renal impairment (creatinine clearance  $\leq$  30 ml/min), to increase the minimum interval between each administration to 6 hours.  **Lactation:** After oral administration, paracetamol is excreted into breast milk in small quantities. No undesirable effects on nursing infants have been reported. Consequently, Paracetamol may be used in breast feeding women.  **EFFECT ON ABILITY TO DRIVE AND USE MACHINES:** Paracetamol at recommended doses has no obvious effects on central nervous system function.  **Method of administration:** The paracetamol solution is administered as a 15-minute intravenous infusion.  **UNDESIRABLE EFFECTS:** **Rarely:**  - Malaise - Hypotension - Increase level of hepatic transaminases.   **Very Rare:**  - Hypersensitivity reaction - Thrombocytopenia - Leucopenia - Neutropenia - Hypersensitivity reactions ranging from simple skin rash or urticaria to anaphylactic shock have been reported and require discontinuation of treatment.  **SPECIAL WARNINGS AND PRECAUTIONS FOR USE:** It is recommended that a suitable oral analgesic treatment be used as soon as this route of administration is possible. In order to avoid the risk of overdose, check that other medicines administered do not contain either paracetamol or propacetamol. Doses higher than the one recommended entails risk for serious liver damage. Clinical symptoms and signs of liver damage (including fulminant hepatitis, hepatic failure, cholestatic hepatitis, cytolytic hepatitis) are usually first seen after two days of drug administration with a peak seen usually after 4-6 days. Treatment with antidote should be given as soon as possible.  **OVERDOSE:** There is a risk of poisoning, particularly in elderly subjects, in young children, in patients with liver disease, in case of chronic alcoholism, in patients with chronic malnutrition and in patients receiving enzyme inducers. Overdosing may be fatal in these cases. Symptoms generally appear within the first 24 hours and comprise: nausea, vomiting, anorexia, pallor and abdominal pain. Overdose, 7.5 g or more of paracetamol in a single administration in adults and 140 mg/kg of body weight in a single administration in children, causes hepatic cytolysis likely to induce complete and irreversible necrosis, resulting in hepatocellular insufficiency, metabolic acidosis and encephalopathy which may lead to coma and death. Simultaneously, increased level of hepatic transaminases (AST, ALT), lactate dehydrogenase and bilirubin are observed together with decreased prothrombin level that may appear 12 to 48 hours after administration. Clinical symptoms of liver damage are usually evident initially after two days, and reach a maximum after 4 to 6 days.  **PRECAUTIONS FOR USE:** Paracetamol should be used with caution in cases of:  - Hepatocellular insufficiency - Severe renal insufficiency (Creatinine clearance,  $<$  30 ml/min) - Chronic alcoholism - Chronic malnutrition (low reserves of hepatic glutathione) - Dehydration.  **EMERGENCY MEASURES :**   - Immediate hospitalisation. - Before beginning treatment, take a blood sample for plasma paracetamol assay, as soon as possible after the overdose. - The treatment includes administration of the antidotes, N-acetylcysteine (NAC) by the i.v. or the oral route, if possible before the 10<sup>th</sup> hour. NAC can, however, give some degree of protection even after 10 hours, but in these cases prolong treatment is given. - Symptomatic treatment.	➤ Concomitant use of paracetamol (4 g per day for at least 4 days) and oral anticoagulants may lead to slight variation of INR values. In this case, increased monitoring of INR values should be conducted during the period of concomitant use as well as for 1 week after paracetamol treatment has been discontinued.  **INCOMPATIBILITIES:** Paracetamol infusion should not be mixed with other medicinal products.  **CAUTION:** Even invisible damage to bottle caused during transit, storage or handling may result contamination. Do not use, if container is found leaking upon squeezing, contents not clear or contains visible solid particles.  **STORAGE:** Store away from light, moisture and heat, store below 25°C. Do not freeze. **Keep out of reach of children.**  **PRODUCT DESCRIPTION:** **ABSORPTION:** Paracetamol Infusion tends to exhibit pink color that may Intensify over time without adversely affecting potency.  **EFFECT ON ABILITY TO DRIVE AND USE MACHINES:** Paracetamol at recommended doses has no obvious effects on central nervous system function.  **PRESENTATION:** FFS Bottle of 50/100 ml.  **UNDESIRABLE EFFECTS:** **Rarely:**  - Malaise - Hypotension - Increase level of hepatic transaminases.   **Very Rare:**  - Hypersensitivity reaction - Thrombocytopenia - Leucopenia - Neutropenia - Hypersensitivity reactions ranging from simple skin rash or urticaria to anaphylactic shock have been reported and require discontinuation of treatment.  **SPECIAL WARNINGS AND PRECAUTIONS FOR USE:** It is recommended that a suitable oral analgesic treatment be used as soon as this route of administration is possible. 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