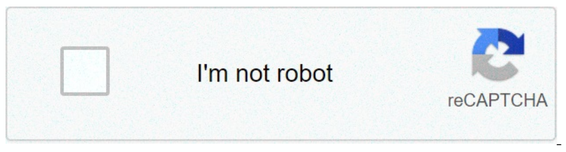

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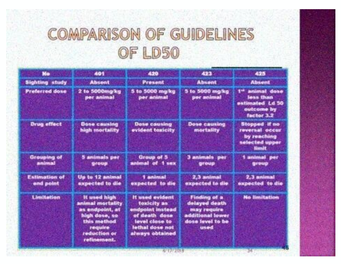
Oecd guidelines toxicity studies. List of oecd guidelines for toxicity studies.

/ 1. SINHGAD COLLEGE OF PHARMACY DEPARTMENT OF PHARMACOLOGY Chronic Toxicity Studies Presented by:- Karan N. Chainani M.Pharm(Sem-I) Roll No. 543 Guided by:- Prof. D.P. JAIN H.O.D PHARMACOLOGY 2. Contents Toxicity Necessities of toxicological studies Principle Types of toxicity studies Chronic toxicity studies Guidelines followed General rules OECD Guidelines for toxicity studies Procedure followed Observations Test reports References 3. TOXICITY..??? “All substances are poisons, there is none which is not a poison. The right dose differentiates a poison from a remedy.” (Paracelsus, 1493-1541) Toxicology It is the study of adverse effects of chemical and physical agents and the degree to which a substance can harm human or animals. OR The study of the nature, effects, and detection of poisons and the treatment of poisoning. 4. NECESSITIES OF TOXICOLOGICAL STUDIES Benefit –risk ratio can be calculated Prediction of therapeutic index Therapeutic index = Maximum tolerated dose Minimum curative dose 5. Principle of toxicity studies Studies should comply with GLP. Performed by trained and qualified staff. Use of standardized and calibrated equipment. SOP’s followed in laboratory tasks. All documents should be preserved for minimum 5 years after marketing of the drug.



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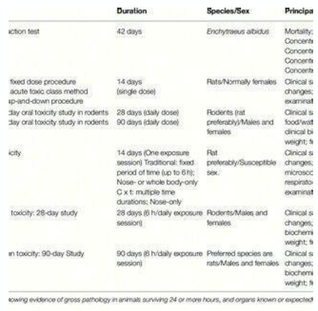

	Duration	Species/Sex	Principa
iction test	42 days	*Enchytraeus albidus*	Mortality; Concentr Concentr Concentr Concentr
fixed dose procedure acute toxic class method up-and-down procedure	14 days (single dose)	Rats/Normally females	Clinical s changes; examinat
day oral toxicity study in rodents day oral toxicity study in rodents	28 days (daily dose) 90 days (daily dose)	Rodents (rat preferably)/Males and females	Clinical s food/wat clinical bi weight; h
icity	14 days (One exposure session) Traditional: fixed period of time (up to 6 h); C x t: multiple time durations; Nose- or whole body–only	Rat preferably/Susceptible sex.	Clinical s changes; microsc respirato examinat
toxicity: 28-day study	28 days (6 h/daily exposure session)	Rodents/Males and females	Clinical s changes; biochemi weight; h
in toxicity: 90-day Study	90 days (6 h/daily exposure session)	Preferred species are rats/Males and females	Clinical s changes; biochemi weight; h

owing evidence of gross pathology in animals surviving 24 or more hours, and organs known or expected

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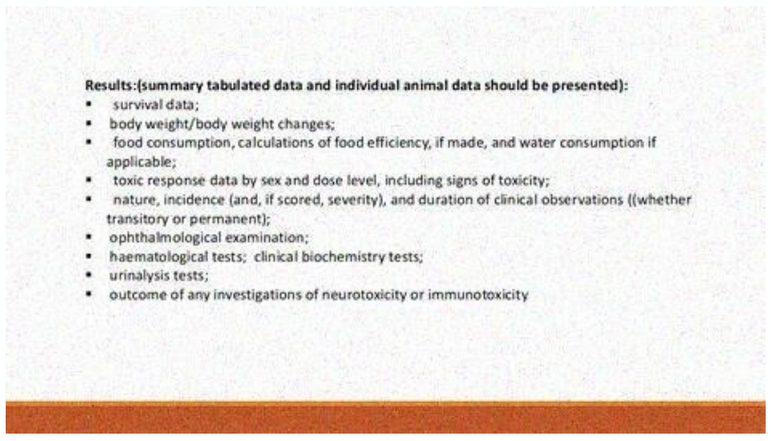

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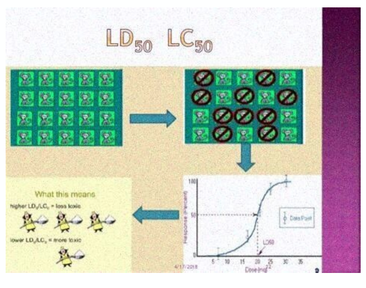

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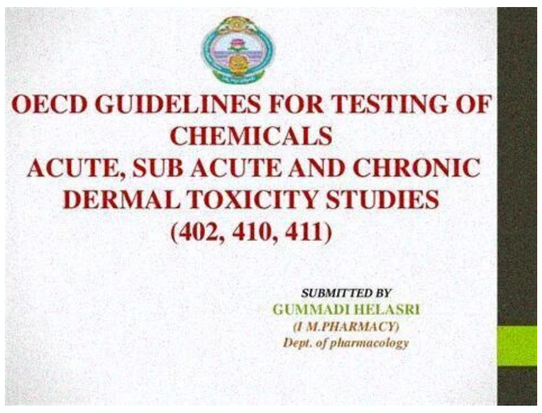

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Observation period Study conducted for 12 months. Can be carried for shorter i.e 6 or 9 months study or longer duration study i.e 18 or 24 months. Deviation from 12 months study must be justified perticularly in case of shorter duration. 17. Observations Morbidity or mortality. Specific signs of toxicity in particular for neurofunctional and neurobehavioural sign. Ophthalmological examination, using an ophthalmoscope or other suitable equipment. 18. Body weight Haematology and clinical biochemistry: Various blood count level. Eg. Platelet count, etc. Glucose, urea (urea nitrogen), creatinine, total protein, albumin, calcium, sodium, potassium, total. 19. Pathology Study of all body parts i.e internal and external is carried out. Organ weight, abdominal tissue cavity and their content.
20. Test report Test report should include: Test substance Test animals Test conditions Results Discussion of results including: -Dose:response relationships -Consideration of any mode of action information -Discussion of any modelling approaches 21. References .html Draft OECD guidelines for testing of chemicals, Test guideline 452: Chronic Toxicity Studies, Draft’s Consultant’s proposal, V. 8, Nov 2008 Test No. 453: Combined Chronic Toxicity/Carcinogenicity Studies:OECD Guidelines for the Testing of Chemicals, Section 4: Health Effects:Published on September 07, 2009 Considerations on the applicability of OECD TG 453 to whole food/feed testing, European Food Safety Authority, European Food Safety Authority (EFSA), Parma, Italy, EFSA Journal 2013;11(7):3347 The objective of these chronic toxicity studies is to characterize the profile of a substance in a mammalian species (primarily rodents) following prolonged and repeated exposure. The Test Guideline focuses on rodents and oral administration. Both sexes should be used. For rodents, at least 20 animals per sex per group should normally be used at each dose level, while for non-rodents a minimum of 4 per sex per group is recommended. At least three dose levels should be used in addition to the concurrent control group. Frequency of exposure normally is daily, but may vary according to the route chosen (oral, dermal or inhalation) and should be adjusted according to the toxicokinetic profile of the test substance. The duration of the exposure period should be 12 months. The study report should include: measurements (weighing) and regular detailed observations (haematological examination, urinalysis, clinical chemistry), as well as necropsy procedures and histopathology. See other content on See other content on The objective of a combined chronic toxicity/carcinogenicity study is to identify carcinogenic and the majority of chronic effects, and to determine dose-response relationships following prolonged and repeated exposure. The rat is typically used for this study. For rodents, each dose group and concurrent control group intended for the carcinogenicity phase of the study should contain at least 50 animals of each sex, while for the chronic toxicity phase of the study should contain at least 10 animals of each sex. At least three dose levels should be used, in addition to the concurrent control group for both the chronic toxicity phase and the carcinogenicity phase of the study. The three main routes of administration are oral, dermal, and inhalation. The Test Guideline focuses on the oral route of administration. The period of dosing and duration of the study is normally 12 months for the chronic phase, and 24 months for the carcinogenicity phase. The study report should include: measurements (weighing) and regular detailed observations (haematological examination, urinalysis, clinical chemistry), as well as necropsy procedures and histopathology. All these observations permit the detection of neoplastic effects and a determination of carcinogenic potential as well as the general toxicity. See other content on