



## Animal Care and Use Program | Occupational Health and Safety

### Occupational Exposure to Hormones in Animal Facilities

#### Sources of Exposure

Faculty, students, and staff can be exposed to hormones during the conduct of several routine agricultural practices:

- Implanting growth promotants - SYNOVEX<sup>®</sup>, Revalor-S<sup>®</sup> or Finaplix-S<sup>®</sup>
- Handling feed additives for reproductive management - Matrix<sup>®</sup>, Melengestrol acetate
- Injecting solutions for reproductive management - Prostagmate<sup>®</sup>, Estrumate<sup>®</sup>, PG600<sup>®</sup>, Lutalyse<sup>®</sup>, oxytocin, Cystrolrelin<sup>®</sup>, zeranol
- Applying other reproductive management devices (intravaginal) - CIDR
- Administering treatments for acute metabolic disorders - Predef<sup>®</sup> 2X

Standard farm operating procedures and research strategies often employ these materials. Faculty, staff and students involved in managing animals or handling feed may be exposed repeatedly during the course of their work. It is important for all persons to be aware of their potential for exposure.

#### Exposure versus Hazard

Hormones, in the forms used on farms, can enter the body by breathing in dust or particulates (inhalation), by contact with the skin (dermal absorption), by swallowing (ingestion), or injection. The hormones may be in a liquid, solid or powdered form, or may be present in an encapsulated or impregnated substrate. Some preparations pose a greater risk for exposure to the user than others, and some hormones are associated with higher health risks when exposure occurs. Risks vary among individuals depending on sex, age or underlying health conditions.

While exposure to hormones is not always dangerous or harmful, products containing hormones are intended to alter a physiological process. Animal physiology and animal hormones are structurally and functionally very similar, and often identical to those of humans, so exposure to these hormones is likely to have similar effects across species.

Short-term, infrequent, or low-level contact may have no effect, or be mildly unpleasant or irritating but without lasting effects. On the other hand, some hormones can be harmful even after brief contact with small quantities. This is particularly true of reproductively active hormones, which are of particular concern if the user is pregnant or intending to become pregnant. The effects of exposures are not always immediate. Repeated contact with hormones can result in cumulative dosing, leading to physiological effects.

## **Protecting yourself**

If you work regularly with or come in contact with hormones during the course of your work, you must be informed of the potential hazards and the steps you can take to minimize your risks of exposure and avoid possible effects on your health.

All commercially sold, FDA-approved hormone products ship with a safety data sheet (SDS) which focuses on the hazards of working with the material in an occupational setting. It provides information on procedures for handling or working with the substance in a safe manner. The SDS includes information such as physical data (melting point, boiling point, flash point, reactivity, etc.), toxicity, known health effects, and first aid procedures. SDSs also contain information on safe methods of storage and disposal, specifications for any necessary personal protective equipment (PPE), and procedures for managing spills.

Users of hormone containing feed additives and reproductive management materials are responsible for:

- Using the substance only for the purpose intended.
- Adhering to label directions for preparation and dosing.
- Heeding warning statements on the label.
- Storing substances, and disposing of used product containers, needles, and syringes, etc. properly.
- Observing withdrawal times prior to disposition of the animals or their products.
- Maintaining purity of the products and avoiding compounding with other products unless combinations are specifically approved.

Documentation of administration (when, how much, by whom) of these products to animals is very important as withdrawal periods must be considered and documented.