

Use of 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD, dioxin)

Purpose:

To provide guidance for the use of TCDD in the laboratory and animal facility environment. TCDD is used at UW-Madison for a variety of research aims.

Precautions:

The following information can be used to complete the Safety section of your animal protocol.

1. Chemical hazard agents – (Identify the category of the chemical) :
 - Carcinogen
 - Reproductive Hazard/Teratogen
 - Toxicant/Toxic agent
2. Containment preparation – (Containment equipment required for the preparation of the chemical): (*Select one of the following*)
 - Fume Hood
 - OR**
 - Ducted Biosafety Cabinet (BSC)
3. Containment animals – (Containment equipment required for chemical administration and handling animals after exposure to the chemical): (*Select one of the following*)
 - Fume Hood
 - OR**
 - Ducted Biosafety Cabinet (BSC)

NOTE: For Rodents: Microisolators or other containment type housing is recommended.
4. PPE needed - (for handling live animals, carcasses or animal waste/dirty bedding): (*Select all of the following*)
 - Exam gloves – nitrile
 - Safety glasses/goggles
 - Lab coat or disposable gown
5. Waste Disposal: (disposal of animal waste/dirty bedding from animals after exposure to the chemical) (*Select both options and include additional information for Other*)
 - Bag animal waste/dirty bedding and place sealed bag in secondary container and place secondary container in regular trash.
 - Other: Signage is required on each individual cage containing the chemical health hazard symbol and “Agent, End date and Disposal method”. Signs are removed

when special handling time has ended. *Cage signage available at www.ehs.wisc.edu

6. Carcass disposal: (*Select the following*)

- Pick up by EH&S for incineration.

7. Chemical human risk: (*Add the following*)

- TCDD is highly toxic and carcinogenic and appropriate precautions should be taken to avoid exposure. Pregnant and lactating women should avoid exposure to TCDD and animals that are exposed to TCDD. Studies have not shown significant reproductive toxicity for males and there are no additional precautions recommended for men attempting to conceive.

References:

“Current Intelligence Bulletin 40 2,3,7,8 -Tetrachlorodibenzo-p-dioxin (TCDD, "dioxin")”
National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control.
http://www.cdc.gov/niosh/84104_40.html

“NTP Technical Report on the Toxicology and Carcinogenesis Studies of 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)” National Toxicology Program, April 2006.
http://ntp.niehs.nih.gov/files/521_Web.pdf

“2,3,7,8-Tetrachlorodibenzo-p-dioxin solution SDS”
<http://www.sigmaaldrich.com/catalog/product/supelco/48599?lang=en®ion=US>