**Office of Environmental Health and Safety (OEHS), Wayne State University**

**Institutional Animal Care and Use Committee (IACUC)**

**Reportable Chemical Guide**

1. Purpose

This guide has been developed by the Wayne State University Chemical Safety Committee (WSU-CSC) to assist Principal Investigators (PIs) in determining if chemicals being administered to laboratory animals represent a hazard to DLAR staff and are subject to IACUC reporting requirements.

If a chemical is deemed reportable (i.e., an IACUC reportable chemical) then the following must be included in the IACUC protocol application:

* List the chemical in the “Are you using section 2a. IACUC Reportable Chemicals?”
* If DLAR staff could potentially be exposed to a hazardous chemical via animals that have been administered an IACUC reportable chemical, an “[*Animal Hazardous Agents Form (AHAF) II – Chemical*](https://research.wayne.edu/oehs/chemical/ahaf-ii-chemical.docx)” must be included as an attachment

1. IACUC Chemical Reporting Guidelines

All chemicals administered to the laboratory animals meeting the following criteria must be reported to WSU IACUC (unless exempted under B15).

1. **Carcinogens**

* Listed on Safety Data Sheet (SDS) with Category 1(H350) and 2 (H351)
* All [OSHA selected carcinogens](https://www.osha.gov/SLTC/carcinogens/standards.html)
* All [National Toxicology Program (NTP) listed carcinogens](https://ntp.niehs.nih.gov/ntp/roc/content/listed_substances_508.pdf)
* Listed in [International Agency for Research on Cancer (IARC)](https://monographs.iarc.fr/list-of-classifications) as: Group 1, 2A and 2B

1. **Hazardous Drugs: Antineoplastic/Chemotherapeutic/Cytotoxic**

* All agents listed on the  [“NIOSH List of Antineoplastic and Other Hazardous Drugs in Healthcare Settings, 2016”](https://www.cdc.gov/niosh/docs/2016-161/pdfs/2016-161.pdf?id=10.26616/NIOSHPUB2016161)
* All agents listed on the NIOSH publication “[Preventing Occupational Exposure to Antineoplastic and other Hazardous Drugs in Health Care Settings Appendix A: "Drugs Considered Hazardous” (Table 01 - 03)](https://www.cdc.gov/niosh/docs/2004-165/pdfs/2004-165.pdf?id=10.26616/NIOSHPUB2004165)”

1. **Reproductive Toxins**

* Listed on Safety Data Sheet (SDS) with Category 1A, 1B (H360) and Category 2 (H361)

1. **Germ Cell Mutagens**

* Listed on Safety Data Sheet (SDS) with Category 1A ,1B (H340) and Category 2 (H341)

1. **Acute Toxins**

* Listed on Safety Data Sheet (SDS) with Category 1, 2 (H300, H310, H330) and 3 (H301, H311, H312) with the following acute toxicity levels

| **Acute Toxicity** | **Category 1**  **H300, H310\* H330\*** | **Category 2**  **H300, H310, H330** | **Category 3**  **H301, H311, H331** |
| --- | --- | --- | --- |
| LD50 Oral (mg/kg) | ≤ 5 | > 5 ≤ 50 | > 50 ≤ 300 |
| LD50 Dermal (mg/kg) | ≤ 50 | > 50 ≤ 200 | > 200 ≤ 1000 |
| LC50 Gases (ppm) | ≤ 100 | > 100 ≤ 500 | > 500 ≤ 2500 |
| LC50 Vapors (mg/l) | ≤ 0.5 | > 0.5 ≤ 2.0 | > 2.0 ≤ 10 |
| LC50 Dust & mists (mg/l) | ≤ 0.05 | > 0.05 ≤ 0.5 | > 0.5 ≤ 1.0 |

1. **Eye Damage / Irritation Agents**

* Listed on Safety Data Sheet (SDS) with Category 1 (H318) and 2A (H319)

1. **Skin Corrosion / Irritation Agents**

* Listed on Safety Data Sheet (SDS) with Category 1A, 1B or 1C (H314)

1. **Aspiration Hazards**

* Listed on Safety Data Sheet (SDS) with Category 1 (H304)

1. **Respiratory sensitizers**

* Listed on Safety Data Sheet (SDS) with Category 1, 1A or 1B (H334)

1. **Target Organ Systemic Toxicity (TOST): Single Exposure Agents**

* Listed on Safety Data Sheet (SDS) with Category 1(H370)

1. **Target Organ Systemic Toxicity (TOST): Repeated Exposure Agents**

* Listed on Safety Data Sheet (SDS) with Category 1(H372)

1. **Nanoparticles**
2. **Novel chemicals with unknown or limited hazardous data\*\***
3. **Explosives and/or Desensitized explosives \*\*\***

* Listed on Safety Data Sheet (SDS) with all corresponding GHS hazard categories and health hazard codes

1. **Exemptions\*\*\*\***

* Drugs Routinely Administered by DLAR staff: Pre/Post Operational Drugs \*\*\*\*\*:
  + Analgesics
  + Anesthetics
  + Antibiotics
  + Perfusates
  + Euthanasia agents
* United States Drug Enforcement Agency (USDEA) Pharmaceutical Grade [Controlled Substances](https://www.deadiversion.usdoj.gov/schedules/orangebook/c_cs_alpha.pdf) Schedule II to V

\* Acute toxins with category 01 dermal (H310) and/ or category 01 inhalation (H330) hazards are considered Specific High Risk Chemicals (SHRCs), and require prior approval from WSU Chemical Safety Committee to be used in any laboratory procedure including, but not limited to, animal research. Please contact WSU Chemical Hygiene Officer for information on how to obtain approval.

*\*\* PI cannot assure that an accidental exposure of these chemicals would not result in an adverse health effect. An adverse health effect is defined as the causation, promotion, facilitation and/or exacerbation of a structural and/or functional abnormality, with the implication that the abnormality produced has the potential of lowering the quality of life, contributing to a disabling illness, or leading to a premature death.*

*\*\*\** *Contact OEHS for additional information on the safe use of these chemicals.*

*\*\*\*\* These chemicals are exempt from reporting in the “Are you using Section for hazardous Chemicals” and in the AHAF - II chemical in the eProtocol submitted to IACUC.*

*\*\*\*\*\* Novel or new pre/post operational drugs will be addressed on a case-by-case basis, contact OEHS and DLAR.*

1. Glossary: Global Harmonized System (GHS) health hazard codes

| **Code** | **Hazard Statement** |
| --- | --- |
| H300 | Fatal if swallowed |
| H301 | Toxic if swallowed |
| H304 | May be fatal if swallowed and enters airways |
| H310 | Fatal in contact with skin |
| H311 | Toxic in contact with skin |
| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H330 | Fatal if inhaled |
| H331 | Toxic if inhaled |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled |
| H340 | May cause genetic defects |
| H341 | Suspected of causing genetic defects |
| H350 | May cause cancer |
| H351 | Suspected of causing cancer |
| H360 | May damage fertility or the unborn child |
| H361 | Suspected of damaging fertility or the unborn child |
| H370 | Causes damage to organs |
| H372 | Causes damage to organs through prolonged or repeated exposure |

1. Additional information on completing an [Animal Hazardous Agent Form](https://research.wayne.edu/oehs/anicon/hazardous-agent-forms)
2. References

The WSU IACUC reportable chemical guide for determining “IACUC reportable chemicals” are consistent with the following sources:

* The Occupational Safety and Hazard Administration (OSHA): "Laboratory Safety Standard" (29 CFR 1910.1450).
* "Prudent Practices in the Laboratory: Handling and Disposal of Chemicals:" National Research Council, 1995.
* Safety Data Sheets (product-specific) provided by various chemical vendors.
* Chemical data basses by OSHA, NTP, NIOSH, IARC, USDEA and WSU Chemical Hygiene Plan
* [PubChem](https://pubchem.ncbi.nlm.nih.gov/)