

DRAFT

Resources for the Reproductive/Developmental, Neurological and Endocrine Endpoints

[CalSafer](#) – originating in consumer product safety, this database contains the authoritative lists and associated hazard traits pertaining approximately 3500 chemicals. The following hazard traits are identified:

- Bioaccumulation
- Carcinogenicity
- Cardiovascular Toxicity
- Dermatotoxicity
- **Developmental Toxicity – 15.4% of total database entries**
- **Endocrine Toxicity – 3.8% of total database entries**
- Environmental Persistence
- Genotoxicity
- Hematotoxicity
- Hepatotoxicity and Digestive System Toxicity
- Immunotoxicity
- Mobility in Environmental Media
- Nephrotoxicity
- **Neurodevelopmental Toxicity – 0.4% of total database entries**
- **Neurotoxicity – 2.1% of total database entries**
- Ocular Toxicity
- Phytotoxicity
- **Reproductive Toxicity – 12.2% of total database entries**
- Respiratory Toxicity
- Wildlife Survival Impairment

CalSafer pulls from these lists: 15 Lists Based on Hazard Traits and 8 Lists Based on Exposure Potential Concerns

Lists Based on Hazard Traits

1. California Proposition 65 – Chemicals known to the state to cause cancer or **reproductive toxicity** (indicated as **male/female repro or dev**) reason typically SQE (State's Qualified Expert) or AB (authoritative body)
2. EC Annex VI CMRs – European Chemical Agency (ECHA) list of Category 1A (known human) or 1B (presumed human) Carcinogens, Mutagens, or **Reproductive**

Toxicants. (Category 2 (suspected human) not included.) These are the same chemicals as EU REACH SVHC Candidate List for reproductive toxicity.

3. EC Endocrine Disruptors (EDs) – European Commission list of substances with clear or potential evidence of **endocrine disruption** (List I, 118 chemicals). These are the same chemicals as the EU REACH SVHC Candidate List for ED.
4. IRIS Neurotoxicants – US EPA Integrated Risk Information System database for **neurotoxicity** endpoints.
5. IRIS Carcinogens – US EPA Integrated Risk Information System database for carcinogenic risk.
6. EC PBTs – European Chemical Agency list of Persistent, Bioaccumulative, and Toxic substances.
7. Canada PBiTs – Environment Canada list of Persistent, Bioaccumulative, and Inherently Toxic substances.
8. EC Annex VI Respiratory Sensitizers – ECHA Category 1 chemicals showing respiratory sensitization properties.
9. IARC Carcinogens – World Health Organization's International Agency for Research on Cancer (Groups 1, 2A, and 2B).
10. ATSDR **Neurotoxicants** – Agency for Toxic Substances and Disease Registry's Toxicological Profiles highlighting nervous system targets.
11. US EPA NWMP PBTs – US EPA National Waste Minimization Program list of priority persistent, bioaccumulative, and toxic chemicals.
12. NTP OHAT – National Toxicology Program Office of Health Assessment and Translation evaluations for **reproductive or developmental hazards**. Source material details either: known to be a hazard to humans, presumed to be a hazard to humans, suspected to be a hazard to humans, not classifiable, not identified to be a hazard to humans for repro/dev.
13. US EPA TRI PBTs – US EPA Toxics Release Inventory designated PBT chemicals.
14. Washington State PBTs – Persistent, bioaccumulative, and toxic chemicals identified by the Washington Department of Ecology.
15. NTP Report on Carcinogens (RoC) – National Toxicology Program list of substances "known" or "reasonably anticipated" to be human carcinogens.

Lists Based on Exposure Potential Concerns (8 Lists)

16. California Notification Levels (NLs) – Health-based advisory levels established by the State Water Resources Control Board for chemicals in drinking water.
17. California Maximum Contaminant Levels (MCLs) – Regulatory standards for public drinking water systems in California.
18. California Toxic Air Contaminants (TACs) – Air pollutants identified by the California Air Resources Board that may cause serious illness. CalSafer database specifies the toxicological reason, including **developmental or reproductive toxicity**.
19. Clean Water Act Section 303(c) and 303(d) – US EPA list of priority water pollutants and impaired water bodies.
20. OEHHA Reference Exposure Levels (RELs) – California Office of Environmental Health Hazard Assessment airborne concentrations not anticipated to cause adverse health effects. Source material indicates why the chemical got an REL, **reproductive and developmental, neurodevelopmental, or endocrine system toxicities** are included among other hazards.
21. California Biomonitoring Priority Chemicals (CECBP) – California Environmental Contaminant Biomonitoring Program list of chemicals targeted for human tissue or blood testing.
22. OSPAR Priority Action Part A – Convention for the Protection of the Marine Environment of the North-East Atlantic list of hazardous substances targeted for elimination.
23. CDC National Exposure Report – Centers for Disease Control and Prevention list of environmental chemicals measured in the US population

Under EPA's [IRIS Program](#) assessments of RfD or RfC can be found that are attributable to neurotoxicity, reproductive system effects, developmental toxicity (fetal and offspring) and endocrine disruption among other endpoints. Of the approximately 570 chemicals assessed, 15-20% cite **developmental toxicity**, 10-12% **neurotoxicity**, 8-10% **reproductive toxicity**, 2-4% **endocrine toxicity** as the primary or co-critical reason for

establishing reference values. The program was shut down in 2026. Of these endpoints, CalSafer only includes IRIS neurotoxicity.

Resources specific to **Neurotoxicity** not included in CalSafer

- [CompTox](#) lists - CompTox has 6 relevant neurotoxicant lists that are not necessarily covered in the other resources. These can be searched separately or all at once using the BATCH search feature.
 1. DNTEFFECTS - 96 chemicals demonstrating effects on neurodevelopment
 2. DNTINVIVO - 33 chemicals documented to trigger developmental neurotoxicity in at least 2 different laboratories
 3. DNTREF - 1482 chemicals known or suspected of causing developmental neurotoxicity in animals or humans based on literature and published studies
 4. LITMINENEURO - 1243 chemicals with 5 or more referenced associated with neurotoxicity found through automated literature mining
 5. NEUROTOXINS - 511 chemicals reported as neurotoxins compiled from public resources.
 6. S24_HUMANNEUROTOX – In 2006 and updated in 2014, researchers Grandjean and Landrigan collected names of 190 chemicals that have caused neurotoxic effects in humans based on reported outcomes in literature.
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Resources specific to **Endocrine Disruption** not included in CalSafer

- [EC Endocrine Disruptors \(EDs\) List II and List III](#) – European Commission list of substances currently under evaluation due to concerns for possible endocrine disruptive properties. (List II, 104 chemicals). European Commission list of substances that are considered endocrine disruptors at the national level in one of the participating member states due to ED properties or structural similarities to known EDs. (List III, 9 chemicals)
- ToxCast Models – Pathway Model for estrogen receptor activity, Pathway Model for androgen receptor activity, CERAPP Model for estrogen receptor activity, COMPARA Model for androgen receptor activity. Available on [CompTox](#) website, search chemical, bioactivity tab.
- [TedX](#) – maintained until 2019, the list identifies chemicals that have shown evidence of endocrine disruption in at least one study in scientific literature.

Resources specific to Reproductive/Developmental Toxicity and Neurotoxicity not included in CalSafer

- GHS Codes

GHS Codes can be found on [PubChem](#). Of these endpoints, only reproductive toxicity has GHS Codes specific to it. These are: H360, H361, H362.

Neurotoxicity characteristics could be inferred by the following GHS Codes.

acute oral: H300, H301, H302, H303

acute aspiration: H304, H305

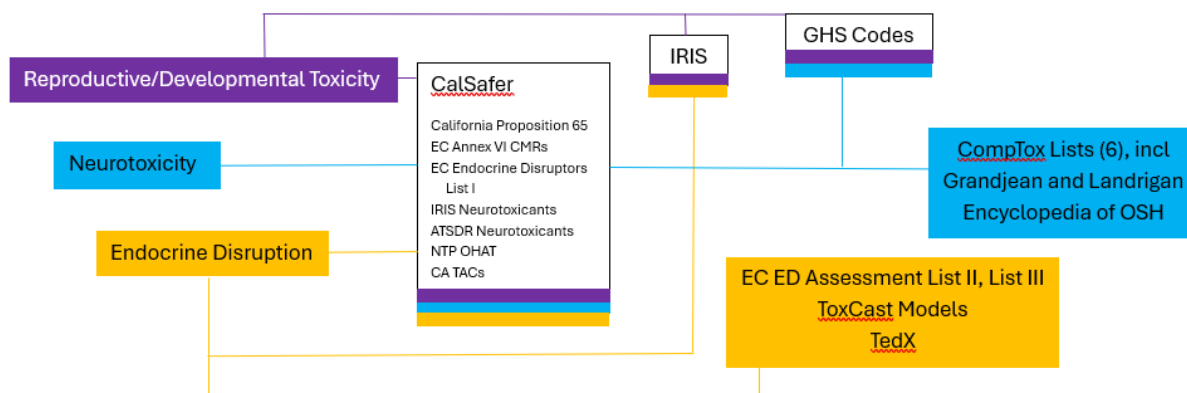
acute inhalation: H330, H331, H332, H333

specific target organ, single exposure: H336 (narcotic effects)

specific target organ, repeated exposure: H371, H372, H373

Studies from the scientific literature are a source of information for all of these endpoints.

Following is a schematic of the resources for these 3 endpoints.



Note: percentages provided in CalSafer and IRIS sections were generated using ChatGPT (July 2026) and not double-checked.