

TCEQ Interoffice Memorandum

To: Interested Parties

From: Toxicology Division, Office of Executive Director

Date: March 8, 2018

Subject: Toxicity Factor Database Effects Screening Levels

A list of the (near-real time) Effects Screening Levels (ESLs) currently used by the TCEQ Toxicology Division for air permitting may be obtained from the Toxicity Factor Database that has been integrated into the Texas Air Monitoring Information System (TAMIS) database.

ESLs, expressed in terms of microgram per cubic meter ($\mu\text{g}/\text{m}^3$) or parts per billion by volume (ppbv) in air, are used to evaluate potential for effects to occur as a result of exposure to concentrations of constituents in the air. ESLs are based on data concerning health effects, odor/nuisance potential, and effects on vegetation. They are not ambient air standards. If predicted or measured airborne levels of a constituent do not exceed the screening level, adverse health or welfare effects would not be expected to result. If ambient levels of constituents in air exceed the screening level, it does not necessarily indicate a problem, but a more in-depth review is conducted.

IMPORTANT: For any compound that is designated as particulate matter (PM), the compound will be evaluated on an individual basis as PM10, *except for long-term crystalline silica and coal dust, which will be evaluated as PM4*. The total particulate matter represented in each permit evaluation must meet the National Ambient Air Quality Standard. For any constituent composed of at least 5% of benzene, benzene emissions will have to be modeled and evaluated separately.

Some notations used on the list that are of note include:

- **Short-term** – generally indicates a 1-hour averaging period, see below for exceptions.

Permitting Condition	Exceptions
Agricultural Areas	<i>Short-term = 24 hours</i> <i>Hydrogen Fluoride</i> <i>Soluble Inorganic Fluorides</i>

- **Long-term** – indicates an annual averaging period, see below for exceptions.

Permitting Condition	Exceptions
Agricultural Areas with Cattle	<i>Long-term = 30 days</i> <i>Hydrogen Fluoride</i> <i>Soluble Inorganic Fluorides</i>

- **Final** – indicates that the ESL was updated using the ESL development guidelines (RG-442).
- **Under review** – indicates that the ESL is currently being reviewed by the Toxicology Division.
- **Interim** – indicates that the ESL is current and will be reviewed by the Toxicology Division at a later date. Also, interim ESLs may be updated pending the release of updated toxicity information or odor data.
- **Must Meet NAAQS** – indicates that, for species of limited concern, the determination of the individual species impacts are not required if a National Ambient Air Quality Standards (NAAQS) analysis is completed for particulate matter of 2.5 and 10 microns or less (PM2.5 and PM10).

The database is dynamic; changes are not indicated in the report output, but the list can be sorted by derived date for each ESL.

If you cannot find a listing for a particular constituent, a health effects review is not required, though these chemicals must satisfy the Best Available Control Technology (BACT) and other permitting requirements. Additionally, the permit reviewer and Air Permits Division management have the discretion to perform a health effects review. In this case, a default short-term ESL of 2 µg/m³ can be used, or you may contact the Toxicology Division to determine if a screening level has been established for a constituent that is not in this list. To request an interim ESL, please fill out the Interim ESL Request Form (found on the Toxicology website). **In the interest of time and resources, the Toxicology Division requests that you please conduct a thorough search of the Toxicity Factor Database with CAS numbers and synonyms of the constituent of interest prior to contacting the Toxicology Division. If a request has been received with constituents that are listed in the Toxicity Factor Database, it will be returned.**

For any technical questions, please feel free to contact Ross Jones at 512-239-1804 or email at ross.jones@tceq.texas.gov or Jong-Song Lee at 512-239-1790 or email at jong-song.lee@tceq.texas.gov.