

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF RELEASE PREVENTION
TOXIC CATASTROPHE PREVENTION ACT (TCPA) PROGRAM

Guidance Document on Determining the Offsite Consequence Analysis Toxic Endpoint for
New Jersey Extraordinarily Hazardous Substances (EHSs) Pursuant to N.J.A.C. 7:31-
2.1(c)2

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Introduction

The owner or operator of a facility subject to the TCPA Program rules must complete an offsite consequence analysis (OCA) pursuant to 40 CFR 68 Subpart B incorporated with changes at N.J.A.C. 7:31-2.1(c) for the worst case and alternate release scenarios of toxic Extraordinarily Hazardous Substances (EHSs). The toxic endpoints which are needed to perform the OCA are listed in Appendix A of 40 CFR Part 68 for the substances that are listed in the United States Environmental Protection Agency (EPA) toxic list at 40 CFR 68.130. However, the list of toxic substances in N.J.A.C. 7:31-6.3(a), Table I, Part A, Groups I and II, includes additional “New Jersey-only” toxic substances beyond those in the EPA list. The toxic endpoints for the New Jersey-only EHSs are not listed in the EPA’s Appendix A. Therefore, the toxic endpoints for these New Jersey-only EHSs must be determined for use in the OCA pursuant to N.J.A.C. 7:31-2.1(c)2. This guidance document provides the method to determine the toxic endpoint for these substances.

Determination of OCA Toxic Endpoints for NJ-only EHSs

The toxic endpoint for the NJ-only EHSs is determined in accordance with the protocol presented in the EPA’s “Risk Management Program Guidance for Offsite Consequence Analysis,” Appendix D, April 15, 1999, which is based on the following hierarchy:

- Emergency Response Planning Guideline (ERPG) 2 value; if not available, then
- One-tenth of the Immediately Dangerous to Life and Health (IDLH) value; if not available, then
- One-tenth of an estimated IDLH level (see the EPA OCA Guidance, Appendix D, pages D-7 and D-8 for the method to determine the estimated IDLH level).

As an alternative to this endpoint, the owner or operator may use the one-hour final or interim Acute Exposure Guideline Level (AEGL) 2 value published by the National Advisory Committee for the Development of Acute Exposure Guideline Levels for Hazardous Substances (AEGL Committee). The one-hour AEGL-2 is used since this level as defined most closely relates to that of the ERPG 2 level, which is also based on a one-hour exposure.

References [1], [2] and [3] below contain definitions and the data for the AEGL-2, ERPG-2, and IDLH levels, respectively.

References:

- 1 Final and interim Acute Exposure Guideline Levels (AEGLs), Technical Support Document (2009), US Environmental Protection Agency (EPA)
(www.epa.gov/oppt/aegl/index.htm)
- 2 Emergency Response Planning Guidelines (ERPGs), American Industrial Hygiene Association (AIHA)
(www.aiha.org/get-involved/AIHAGuidelineFoundation/EmergencyResponsePlanningGuidelines/Pages/default.aspx)

- 3** Pocket Guide to Chemical Hazards, National Institute for Occupational safety and Health (NIOSH) (www.cdc.gov/niosh/npg/)