



The Chemical Facility Anti-Terrorism Standards (CFATS) program identifies and regulates high-risk chemical facilities to ensure they have security measures in place to reduce the risk of terrorist attack associated with certain chemicals. The CFATS regulation lists more than 300 Chemicals of Interest (COI) that, if held in specified quantities or concentrations, trigger reporting requirements under CFATS. A facility must submit an online survey, known as the Top-Screen, within 60 days of coming in possession of the COI.

Risk-Based Tiering

The CFATS regulation follows a risk-based approach that allows DHS to focus its resources on high-risk chemical facilities in accordance with their specific level of risk. To identify a facility's level of risk, DHS uses information submitted by facilities through the Top-Screen, taking into account vulnerability, potential consequences, and threat of a terrorist attack. After analyzing Top-Screen data from facilities, DHS will determine which facilities are high-risk and subject to further requirements under the regulation and assign those facilities determined to be high-risk to one of four risk-based tiers.



Improved Tiering Methodology

Over the last several years, DHS has undertaken a thorough review of the risk-tiering methodology used to identify high-risk chemical facilities subject to CFATS. This included a 2013 Peer Review of the prior methodology conducted by a panel of experts drawn from across industry, academia, and government; a review of the proposed new methodology by external experts from industry and government; a review of the proposed new methodology by experts from the Homeland Security Studies and Analysis Institute (HSSAI); and an independent verification by Sandia National Laboratories.

Based upon the work conducted over the past three years, the CFATS program now has an improved risk tiering methodology that more accurately identifies and appropriately tiers high-risk chemical facilities. The improved methodology still considers a facility's vulnerability, consequence, and threat factors in its high-risk determination,¹ but now also includes several new components within each of the elements of risk. While much of the risk tiering methodology is sensitive and/or classified, the following tables provide information on some of the factors that are considered within the functions of risk and may help facilities better understand the types of items that may impact their high-risk status and, as applicable, assignment of their risk tiers.

Vulnerability

The vulnerability variable used in the new risk methodology considers inherent characteristics of the facility and/or asset that reduce vulnerability to a terrorist attack. For example, a COI storage container located in an underground earth formation may reduce a facility's vulnerability to a terrorist attack.

¹ Consideration of vulnerability, consequence, and threat aligns with the requirement in the Protecting and Securing Chemical Facilities from Terrorist Attacks Act of 2014 ("the CFATS Act of 2014").

Other factors that may affect a facility’s vulnerability include:

Factors to Reduce Vulnerability	Applicable Security Issue
COI not accessible by motor vehicle	• Release
Higher design pressure of a storage container	• Release
Below-grade storage	• Release
Larger, less portable COI containers	• Theft
COI is not shipped from the facility	• Diversion • Sabotage

Consequence

The consequence calculations performed in the new risk methodology incorporate improved tools that allow DHS to more accurately estimate, through physics-based dispersion and blast modeling, the onsite and offsite impacts of COI exploitation and misuse. Factors that may affect a facility’s consequence score include:

Factors Considered for Consequence	Applicable Security Issue
Topography surrounding facility (urban or rural terrain)	• Release
Potentially exposed population surrounding facility	• Release
COI toxicity	• Release–toxics • Theft/Diversion–WME/CW • Sabotage
COI flammability	• Release
COI explosive energy	• Release–explosives • Theft/Diversion EXP/IEDPs
COI quantity and concentration	• Release • Theft/Diversion • Sabotage
COI storage: container location, temperature, pressure rating, secondary containment	• Release
COI storage: types of packaging	• Theft/Diversion
COI precursor characteristics: toxicity / explosive energy	• Theft/Diversion CWP and IEDP
Mode of shipping	• Sabotage

Threat

The threat variable used in the improved risk methodology includes factors informed by the intelligence community. Factors that may affect the level of threat of terrorist attack or exploitation for a facility include:

Factors Considered for Threat	Applicable Security Issue
Specific chemical of interest	• Release • Theft/Diversion
Facility type (chemical production facility or user/distributor)	• Release
Type of area where COI is located (process unit, storage area, or transfer point)	• Release
Mode of shipment	• Theft/Diversion • Sabotage

Contact Information

If you wish to discuss your specific facility’s risk, you may speak with a Compliance Case Manager or Chemical Security Inspector. To request a consultation or additional information, please email CFATS@hq.dhs.gov. Visit www.dhs.gov/cfats-tiering-methodology for the latest information about the new risk tiering methodology and accompanying launch of the improved Chemical Security Assessment Tool (CSAT) 2.0.