

Ensuring You are Ahead of the Curve: CFATS Compliance

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CFATS Basics

- Department of Homeland Security (DHS) Appropriations Act of 2007
- Authority to regulate security of high risk chemical facilities
- Applies to 322 Chemicals of Interest (COI) listed in Appendix A
- Reauthorized through December 2018



Definition of Chemical Facility

Chemical Facility or facility shall mean any establishment that possesses or plans to possess, at any relevant point in time, a quantity of a chemical substance determined by the Secretary to be potentially dangerous or that meets other risk-related criteria identified by the Department.

As used herein, the term chemical facility or facility shall also refer to the owner or operator of the chemical facility. Where multiple owners and/or operators function within a common infrastructure or within a single fenced area, the Assistant Secretary may determine that such owners and/or operators constitute a single chemical facility or multiple chemical facilities depending on the circumstances.

Does CFATS Apply to Colleges/Universities?

Yes!

- High risk chemical facilities are determined by DHS
- Largely an honor system BUT DHS has authority to identify facilities it considers high risk
- Higher education comments resulted in some changes
 - DHS allows flexibility in defining boundaries of facility (e.g., entire campus or specific building(s))
 - Exclusion for laboratory quantities of some chemicals
 - Removal of acetone from list and adjustment of some quantities

How Does DHS Determine High Risk?



Vulnerability

- Inherent characteristics of the facility
 - Topography
 - Urban or rural
 - Facility access for emergency response
- Shipping
 - Rail or road
 - Types and size of transportation packaging
- Storage Containers
 - Above ground or underground
 - Total quantity onsite
 - Largest quantity location



Consequence

- Use of dispersion and blast modeling
- Potentially exposed populations
- Onsite and offsite impacts
- COI toxicity, flammability
- COI quantity and concentration
- COI storage
- Mode of shipping



Threat

- Intelligence
- Specific chemical(s)
- Mode of shipment
- Capability of adversary



COI Risk Categories



Release
Toxic, Flammable, Explosive
Laboratory exclusion



Sabotage / Contamination

Applies if shipped and placard required
(See 49 CFR Subpart B 172.101 Table)



Theft/Diversión
CW/CW Precursors, WME, EXP/IEDP

Applies if in transportation packaging
(See CFATS Advisory Opinion 2016-003)

Screening Threshold Quantity (STQ)

The amount of a COI that triggers the regulation

- Release: varies from 500 lbs. to 60,000 lbs.
- Theft/Diversión: varies from *CUM 100g* to 2,000 lbs.
- Sabotage/Contamination: A placarded amount (APA)
- Mixtures: Minimum concentration
- ACG: Any commercial grade



Appendix A Chemicals of Interest (COI)

| Chemicals of Interest (COI) | Synonym | Chemical Abstract Service (CAS) # | Release Weight Concentration (ppm) | Release Scavenging Threshold Quantity (in pounds) | Threat Minimum Quantity (in pounds) | Threat Scavenging Threshold Quantity (in pounds) | Threat Scavenging Threshold Quantity (in pounds) unless otherwise noted | Sabotage Minimum Quantity (in pounds) | Sabotage Scavenging Threshold Quantity | Security Issue: Release - Toxic | Security Issue: Release - Flammable | Security Issue: Release - Explosive | Security Issue: Theft - CWC/CN | Security Issue: Theft - WMD | Security Issue: Sabotage/Contamination |
|-----------------------------|---|-----------------------------------|------------------------------------|---|-------------------------------------|--|---|---------------------------------------|--|---------------------------------|-------------------------------------|-------------------------------------|--------------------------------|-----------------------------|--|
| Chlorine | | 7782-50-5 | 1.00 | 2,500 | 9.77 | 500 | | | | X | | | X | | |
| Chlorine dioxide | [Chlorine oxide, (ClO ₂)] | 10049-04-4 | 1.00 | 1,000 | | | ACG | APA | X | | | | | | X |
| Chlorine monoxide | [Chlorine oxide] | 7791-21-1 | 1.00 | 10,000 | | | | | | | X | | | | |
| Chlorine pentafluoride | | 13637-63-3 | | | 4.07 | 15 | | | | | | | X | | |
| Chlorine trifluoride | | 7790-91-2 | | | 9.97 | 45 | | | | | | | X | | |
| Chloroacetyl chloride | | 79-04-9 | | | | | ACG | APA | | | | | | | X |
| 2-Chloroethylchloroacetate | | 2625-76-5 | | | | CUM 100g | | | | | | | X | | |
| Chloroform | [Methane, trichloro-] | 67-66-3 | 1.00 | 20,000 | | | | | | X | | | | | |
| Chloroethyl ether | [Methane, oxybis(chloro-)] | 542-86-1 | 1.00 | 1,000 | | | | | | X | | | | | |
| Chloroethyl methyl ether | [Methane, chloromethoxy-] | 107-30-2 | 1.00 | 5,000 | | | | | | X | | | | | |
| 1-Chloropropylene | [1-Propene, 1-chloro-] | 590-21-6 | 1.00 | 10,000 | | | | | | | X | | | | |
| 2-Chloropropylene | [1-Propene, 2-chloro-] | 557-86-2 | 1.00 | 10,000 | | | | | | | X | | | | |
| Chlorosarin | [o-Isopropyl methylphosphonochloridate] | 1445-76-7 | | | | CUM 100g | | | | | | | X | | |
| Chlorosoman | [o-Isopropyl methylphosphonochloridate] | 7940-57-5 | | | | CUM 100g | | | | | | | X | | |
| Chlorosulfonic acid | | 7799-54-5 | | | | | ACG | APA | | | | | | | X |
| Chromium oxychloride | | 14977-61-8 | | | | | ACG | APA | | | | | | | X |
| Crotonaldehyde | [2-Butenal] | 4179-30-3 | 1.00 | 10,000 | | | | | | | X | | | | |
| Crotonaldehyde, (E)- | [2-Butenal, (E)-] | 123-73-9 | 1.00 | 10,000 | | | | | | | X | | | | |
| Cyanogen | [Ethanedinitrile] | 460-19-5 | 1.00 | 10,000 | 11.67 | 45 | | | | X | | | X | | |
| Cyanogen chloride | | 506-77-4 | 1.00 | 10,000 | 2.67 | 15 | | | | X | | | X | | |
| Cyclohexylamine | [Cyclohexanamine] | 108-91-8 | 1.00 | 15,000 | | | | | | X | | | | | |
| Cyclohexylchlorosulfane | | 96-12-4 | | | | | ACG | APA | | | | | | | X |

Laboratory Exclusion



- Applies to all Release categories: toxic, flammable, explosives

and

the facility manufactures, processes or uses in a laboratory under the supervision of a *technically qualified individual*

who

enforces appropriate methods of research and conducts safety assessments

- Must count theft/diversion and sabotage/contamination COI in labs
- Must count release COI in non-laboratory areas

COIs and Higher Education

DHS Chemical of Interest

| DHS Chemical of Interest | Risk | Screening Threshold Quantity | Location(s) |
|---|------------------|------------------------------|-----------------------|
| Nitric acid | Theft | 400 lbs. | Laboratories |
| Dichlorosilane | Release Theft | 10,000 lbs. 45 lbs. | Clean rooms |
| Ammonia (refrigerant) | Release | 20,000 lbs. | Ice rinks |
| Ammonium nitrate 23% nitrogen (compound concentration 33%) | Theft | 2,000 lbs. | Farms and ranches |
| Propane, tanks > 10,000 lbs. | Release | 60,000 lbs. | Fire training / farms |

Chemicals Commonly Found in CFATS-Regulated Pools and Water Parks

Some of the commonly reported COI among pools and water parks include, but are not limited to:

| COI | Security Issue | STQ & Minimum Concentration |
|---------------------|---|---|
| Chlorine | Release: Toxic | 2,500 lbs.; 1% Concentration or higher |
| | Theft: Weapon of Mass Effect (WME) | 500 lbs.; 9.77% Concentration or higher |
| Hydrogen peroxide | Theft: Explosives/Improvised Explosive Device Precursors (EXP/IEDP) | 400 lbs.; 35% Concentration or higher |
| Acrolein | Release: Toxic | 5,000 lbs.; 1% Concentration or higher |
| Ammonia (anhydrous) | Release: Toxic | 10,000 lbs.; 1% Concentration or higher |
| Potassium cyanide | Sabotage | Any Placarded Amount (APA); A Commercial Grade (ACG) |

Source: Department of Homeland Security, 12/2017

Checking for Possession of COIs



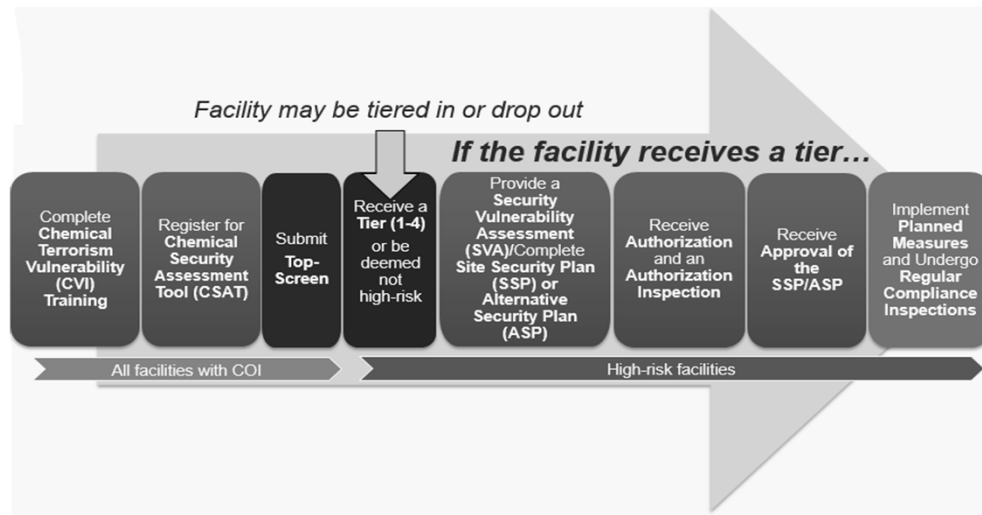
- Use existing procurement and/or inventory system
- Develop screening tool to send to campus stakeholders
- Communicate through site visits, direct communication
- Check with:
 - Facilities units, laboratories, fire training academies, farms, clean rooms, ice rinks, medical facilities, pools, central shipping and receiving facilities
- Are COIs with low STQs shipped?
- DHS has said reducing quantities to below the STQ and/or eliminating the COI is a legitimate security strategy

What To Do If You Possess a COI

- Register with DHS using the Chemical Security Assessment Tool (CSAT)
- Identify:
 - Submitter, Preparer, Authorizer, Reviewer (optional)
 - Other Authorized Users
- Collect necessary information on COI(s)
 - Facility information, location, owner/operator, NAICS #
 - Identify COI(s) at or above STQ
- Complete online questionnaire called the Top Screen
 - Must be submitted within 60 days of identification of COI
- Be aware of 60 “look back” period



What Happens After You Report?



Tier 1 – 4 (high to low)

Security Vulnerability Assessment (SVA)

- Combined with Site Security Plan in one submission (this is a change)
- COIs – methods of use, shipping, receiving, storage
- Critical assets – storage, handling, shipping, security, safety, personnel
- Vulnerability assessment – describe in detail detection, delay, response, cyber security measures and related vulnerabilities



Site Security Plan (SSP)



- **Detection**
 - Security force, intrusion detection systems / sensors, CCTV, security lighting, inventory controls
- **Delay**
 - Perimeter security, secure site assets, screening and access controls, personnel access controls, vehicle restrictions, key and credential controls, shipping, receiving and storage
- **Response**
 - Crisis plans, response drills and exercises, outreach/joint initiatives, threat alerts, communications, onsite response, offsite response, emergency backup power
- **Protection of cyber systems**
- **Security management**
 - System inspection, testing, monitoring; training; personnel surety; security incidents

Risk Based Performance Standards (RBPS)

- High-risk facilities must address the 18 RBPS
- Non-prescriptive, information is considered guidance
- DHS cannot disapprove SSP on the basis of a particular security measure
- Some of the most difficult for C/Us
 - Restrict area perimeter (physically limiting access / monitoring perimeter)
 - Secure site assets (limiting accessibility to assets / surveillance of assets)
 - Screening and controlling assets (knowing who is allowed onsite)
 - Personnel surety (background checks, escorted access)



Chemical-terrorism Vulnerability Information (CVI)

- Restricted to Authorized User(s) and based on need to know
- Includes Security Vulnerability Assessments, Site Security Plans, inspection or audit information, information developed for Top Screen
- Other information developed for chemical facility security
- Written information must be secured and protected
- Training required



What is the Current Status of CFATS?

*Protecting and Securing Chemical Facilities from Terrorist Acts of 2014
(CFATS Act of 2014)*

- Reauthorization ends December 18, 2018
- New risk tiering methodology (mostly classified)
- Tier 3 and 4 expected to be added to Personnel Surety Program
- Expedited Approval Program for Tier 3 and 4
- Resubmit Top Screens if contacted



Violations

- Failure to report chemicals to DHS
- Knowing submission of false information
- Failure to implement a Site Security Plan (SSP)
- Deficiencies in Security Vulnerability Assessment or Site Security Plan
- Chemical –terrorism Vulnerability Information
- Failure to maintain records

Civil Penalties

| Severity of Deficient Measure | Range of Civil Penalty Amounts |
|---|--------------------------------|
| Minor | \$1,000 - \$2,000 / day |
| Moderate | \$3,000 - \$6,000 / day |
| Major | \$5,000 - \$10,000 / day |
| Maximum civil penalty is \$33,333 / day for each day facility is in violation | |
| Failure to file Top Screen beyond 60 days: formula driven / begins at \$2,000 | |

Continued noncompliance can result in an order to cease operations

Need More Information?

More information

<https://www.dhs.gov/critical-infrastructure-chemical-security>

Top Screen

<https://www.dhs.gov/chemical-security-assessment-tool>

Regulations

<https://www.dhs.gov/chemical-security-laws-and-regulations>