



County of San Diego Hazardous Materials Division Certified Unified Program Agency (CUPA)

Combustible Metals - Hazardous Materials Business Plan Reporting

This guidance summarizes the reporting requirements for combustible metals and metal alloys required to be submitted online using the California Environmental Reporting System (CERS) to comply with the Hazardous Materials Business Plan (HMBP) law. The law is effective as of January 1, 2018.

Reporting Requirement Summary

Any facility that handles or stores combustible metals or metal alloys meeting any of the following criteria must include those items in their CERS chemical inventory, and submit and certify the HMBP at least every 12 months.

<u>COMBUSTIBLE METALS OR METAL ALLOYS DEFINED AS:</u>	<u>IN THE FORM OF:</u>	<u>REPORT IF:</u>	<u>EXAMPLES:*</u>
<ul style="list-style-type: none"> • PYROPHORIC ¹ • WATER-REACTIVE ² 	<ul style="list-style-type: none"> • Raw stock • Scrap • Powder 	Any quantity	<ul style="list-style-type: none"> • e.g. rubidium, cesium, zinc powder, other metal powders • e.g. calcium, lithium, sodium, potassium
<ul style="list-style-type: none"> • COMBUSTIBLE DUST ³ • FLAMMABLE SOLID ⁴ • MAGNESIUM ⁵ 	<ul style="list-style-type: none"> • Raw stock • Scrap • Powder 	≥ 100 pounds	<ul style="list-style-type: none"> • e.g. titanium dust • e.g. magnesium, zirconium
<ul style="list-style-type: none"> • EXPLOSIVE POTENTIAL (i.e..contact with water) 	<ul style="list-style-type: none"> • Molten form 	≥ 500 pounds	

**Disclaimer: the examples listed are not all the names of combustible metals regulated by this law.*

Supporting California Fire Code Definitions

1. **PYROPHORIC.** A chemical with an auto ignition temperature in air, at or below a temperature of 130°F (54°C).
2. **WATER-REACTIVE MATERIAL.** A material that explodes; violently reacts; produces flammable, toxic or other hazardous gases; or evolves enough heat to cause auto ignition or ignition of combustibles upon exposure to water or moisture. Water-reactive materials are subdivided as follows:
 - Class 3.** Materials that react explosively with water without requiring heat or confinement.
 - Class 2.** Materials that react violently with water or have the ability to boil water. Materials that produce flammable, toxic or other hazardous gases, or evolve enough heat to cause auto ignition or ignition of combustibles upon exposure to water or moisture.
 - Class 1.** Materials that react with water with some release of energy, but not violently.
3. **COMBUSTIBLE DUST.** Finely divided solid material which is 420 microns or less in diameter and which, when dispersed in air in the proper proportions, could be ignited by a flame, spark or other source of ignition. Combustible dust will pass through a U.S. No. 40 standard sieve.
4. **FLAMMABLE SOLID.** A solid, other than a blasting agent or explosive, that is capable of causing fire through friction, absorption of moisture, spontaneous chemical change or retained heat from manufacturing or processing, or which has an ignition temperature below 212°F (100°C) or which burns so vigorously and persistently when ignited as to create a serious hazard. A chemical shall be considered a flammable solid as determined in accordance with the test method of CPSC 16 CFR Part 1500.44, if it ignites and burns with a self-sustained flame at a rate greater than 0.0866 inch (2.2mm) per second along its major axis.
5. **MAGNESIUM.** The pure metal and alloys, of which the major part is magnesium.

Additional Examples of Pyrophoric and Water-Reactive Materials:

Note- This list includes examples of pyrophoric and water-reactive materials but is not all-inclusive. Alloys of these materials should also be evaluated. Always review the most current Safety Data Sheet for the substance to determine the hazard. (Source: Massachusetts Institute of Technology)

****Metal Powders/Dust such**

as:

Aluminum (CAS 7429-90-5)
Barium (CAS 7440-39-3)
Cadmium (CAS 7440-43-9)
Calcium (CAS 7440-70-2)
Cerium (CAS 7440-45-1)
Cesium (CAS 7440-46-2)
Chromium (CAS 7440-47-3)
Cobalt (CAS 7440-48-4)
Europium (CAS 7440-53-1)
Hafnium (CAS 7440-58-6)
Iridium (CAS 7439-88-5)
Iron H251 (CAS 7439-89-6)
Lead (CAS 7439-92-1)
Magnesium (CAS 7439-95-4)
Manganese (CAS 7439-96-5)
Nickel (CAS 7440-02-0)
Palladium (CAS 7440-05-3)

Platinum (CAS 7440-06-4)
Plutonium (CAS 7440-07-5)
Rhodium (CAS 7440-16-6)
Rubidium (CAS 7440-17-7)
Strontium (CAS 7440-24-6)
Tantalum (CAS 7440-25-7)
Technetium (CAS 7440-26-8)
Thorium (CAS 7440-29-1)
Titanium (CAS 7440-32-6)
Uranium (CAS 7440-61-1)
Vanadium (CAS 7440-62-2)
Zinc (CAS 7440-66-6)
Zirconium (CAS 7440-67-7)

Alkali Metals such as:

Lithium (CAS 7439-93-2)
Potassium (CAS 7440-09-7)
Sodium (CAS 7440-23-5)

** Some metal powders/dust present special storage and handling concerns when finely divided, including hazards such as air or water reactivity, or explosive dust generation. Whether a given metal powder or alloy exhibits these properties depends on multiple factors, including but not limited to, the type of metal, particle size, surface area, moisture level, purity, etc.

Background:

Assembly Bill 1689 created the Cal. Health and Safety Code (HSC), Chapter 6.95, Section 25507(a)(8), requiring facilities that handle combustible metals or metal alloys, as described, in specific quantities, to establish and implement a business plan beginning January 1, 2018. Facility reporting must be done using the California Environmental Reporting System (CERS) at <https://cers.calepa.ca.gov/>.

HSC §25507(a)(8) includes various types of combustible metals reportable under HMBP requirements and establishes the three categories to identify the hazards associated with combustible metals. Threshold quantities were taken in reference to the California Fire Code (CFC) operational permit amounts.

Questions?

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VISIT: San Diego County's Chemical Inventory Reporting Guidance Webpage

https://www.sandiegocounty.gov/content/sdc/deh/hazmat/hazmat/hmd_chem_reporting_changes.html

References

[California Health and Safety Code Section 25507\(a\)\(8\)](#)
[Assembly Bill 1689 \(2017\)](#)