



# Hazard Communication Information Sheet reflecting the US OSHA Implementation of the *Globally Harmonized System of Classification and Labelling of Chemicals (GHS)*

Produced by the SCHC-OSHA Alliance  
GHS/HazCom Information Sheet Workgroup

**Flammable Solid**

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## *How does HazCom 2012 define flammable solids?*

A flammable solid is a solid which is readily combustible or which may cause or contribute to fire through friction. Readily combustible solids are powdered, granular or pasty chemicals which are dangerous if they can be easily ignited by brief contact with an ignition source, such as a burning match, and if the flame spread rapidly.

## *How are flammable solids classified under OSHA HazCom 2012?*

Classification as flammable solids is determined based on burning rate tests in which a sample is placed in a testing apparatus and ignited at one end. If the burn rate across the sample is at a rate defined in the table below, then the material is classified as a flammable solid. (To learn more about the test refer to the UN Manual of Tests and Criteria, link below). Testing is not required by the HCS; data from available scientific literature and other evidence may be used in lieu of testing.

**Table 1: Classification Criteria**

Category	Category 1	Category 2
Description	Burning rate test: Chemicals other than metal powders: (a) wetted zone does not stop fire; and (b) burning time <45 seconds or burning rate >2.2 millimeters/second Metal powders: burning time ≤5 minutes	Burning rate test: Chemicals other than metal powders: (a) wetted zone stops the fire for at least 4 minutes; and (b) burning time <45 seconds or burning rate >2.2 millimeters/second Metal powders: burning time >5 minutes and ≤10 minutes

Table 2 shows some of the label elements for flammable solids. The precautionary statements are not included due to space limitations of this fact sheet. See §1910.1200 for complete classification and labelling information.

**Table 2: Label Elements**

Category	Category 1	Category 2
Pictogram		
Signal Word	Danger	Warning
Hazard Statement	Flammable solid	Flammable solid

## *Additional Considerations*

Powdered, granular or pasty chemicals are classified as flammable solids when the time of burning of one or more of the test runs, performed in accordance with the test method described in the UN ST/SG/AC.10 (incorporated by reference; See §1910.6), Part III, sub-section 33.2.10), is less than 45 seconds or the rate of burning is more than 2.2 millimeters/second (0.0866 inches/second).

Powders of metals or metal alloys are classified as flammable solids when they can be ignited and the reaction spreads over the whole length of the sample in 10 minutes or less.

Solids which may cause fire through friction are classified in this class by analogy with existing entries (e.g., matches) until definitive criteria are established.

A flammable solid is classified in one of the two categories for this class using Method N.1 as described in Part III, sub-section 33.2.1 of the UN ST/SG/AC.10 (incorporated by reference; See §1910.6), in accordance with Table shown above. As mentioned above, Testing is not required by the HCS; data from available scientific literature and other evidence may be used in lieu of testing.

Classification of solid chemicals is based on tests performed on the chemical as presented. If, for example, for the purposes of supply or transport, the same chemical is to be presented in a physical form different from that which was tested and which is considered

likely to materially alter its performance in a classification test, classification must be based on testing of the chemical in the new form.

### ***How is classification applied to mixtures?***

Mixtures are classified based on available data on the finished product (mixture as a whole).

#### ***To learn more...***

- OSHA: Hazard Communication : <https://www.osha.gov/dsg/hazcom/index.html>
- SCHC site: <http://www.schc.org/osha-alliance>

*The information contained in this sheet is believed to accurately represent current OSHA HCS requirements. However, SCHC cannot guarantee the accuracy or completeness of this information. Users are responsible for determining the suitability and appropriateness of these materials for any particular application.*

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