



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

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

### Oxidizing Solids

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#### How does OSHA's Hazard Communication Standard (HCS) 2012 define Oxidizing Solid?

Oxidizing solid means a solid which, while in itself is not necessarily combustible, may, generally by yielding oxygen, cause, or contribute to, the combustion of other material.

#### How are Oxidizing Solids classified under HCS 2012?

Oxidizing solids shall be classified as per one of the three below categories:

Table 1: Classification Criteria

Category	1	2	3
Description	Any chemical which, in the 4:1 or 1:1 sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time less than the mean burning time of a 3:2 mixture, by mass, of potassium bromate and cellulose.	Any chemical which, in the 4:1 or 1:1 sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time equal to or less than the mean burning time of a 2:3 mixture (by mass) of potassium bromate and cellulose and the criteria for Category 1 are not met.	Any chemical which, in the 4:1 or 1:1 sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time equal to or less than the mean burning time of a 3:7 mixture (by mass) of potassium bromate and cellulose and the criteria for Categories 1 and 2 are not met.

**NOTE 1:** Some oxidizing solids may present explosion hazards under certain conditions (e.g., when stored in large quantities). For example, some types of ammonium nitrate may give rise to an explosion hazard under extreme conditions and the "Resistance to detonation test" (IMO: Code of Safe Practice for Solid Bulk Cargoes, 2005, Annex 3, Test 5) may be used to assess this hazard. When information indicates that an oxidizing solid may present an explosion hazard, it must be indicated on the Safety Data Sheet.

**NOTE 2:** Classification of solid chemicals must be 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.

Additional classification considerations:




For organic chemicals, the classification procedure for this class is not applied if:

- (a) The chemical does not contain oxygen, fluorine or chlorine; or
- (b) The chemical contains oxygen, fluorine or chlorine and these elements are chemically bonded only to carbon or hydrogen.

For inorganic chemicals, the classification procedure for this class is not applied if the chemical does not contain oxygen or halogen atoms. In the event of divergence between test results and known experience in the handling and use of chemicals which shows them to be oxidizing, judgments based on known experience take precedence over test results.

Table 2 shows some of the label elements for oxidizing solid. Required precautionary statements are not included due to space limitations of this fact sheet. See Appendix C to §1910.1200 for complete information.

Table 2: Label Elements

Category	1	2	3
Pictogram			
Signal Word	Danger	Danger	Warning
Hazard Statement	May cause fire or explosion; strong oxidizer	May intensify fire; oxidizer	May intensify fire; oxidizer

## *How is this 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>  
HCS 2012.
- 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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