



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 Liquids

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How does OSHA's Hazard Communication Standard (HCS) 2012 define oxidizing liquid?

Oxidizing liquid means a liquid 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 liquids classified under HCS 2012?

Oxidizing liquid 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 1:1 mixture, by mass, of chemical and cellulose tested, spontaneously ignites; or the mean pressure rise time of a 1:1 mixture, by mass, of chemical and cellulose is less than that of a 1:1 mixture, by mass, of 50% perchloric acid and cellulose.	Any chemical which, in the 1:1 mixture, by mass, of chemical and cellulose tested, exhibits a mean pressure rise time less than or equal to the mean pressure rise time of a 1:1 mixture, by mass, of 40% aqueous sodium chlorate solution and cellulose; and the criteria for Category 1 are not met.	Any chemical which, in the 1:1 mixture, by mass, of chemical and cellulose tested, exhibits a mean pressure rise time less than or equal to the mean pressure rise time of a 1:1 mixture, by mass, of 65% aqueous nitric acid and cellulose; and the criteria for Categories 1 and 2 are not met.

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.

In cases where chemicals generate a pressure rise (too high or too low), caused by chemical reactions not characterizing the oxidizing properties of the chemical, the test described in Part III, sub-section 34.4.2 of the UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria must be repeated with an inert substance (e.g., diatomite (kieselguhr)) in place of the cellulose in order to clarify the nature of the reaction.

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

Table 2: HCS 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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