



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

Flammable Liquids

October 2017

How does OSHA's Hazard Communication Standard (HCS) define flammable liquids?

Flammable liquid means a liquid having a flash point of not more than 93°C (199.4°F). Flash point means the minimum temperature at which a liquid gives off vapor in sufficient concentration to form an ignitable mixture with air near the surface of the liquid.

How are flammable liquids classified under OSHA's HCS?

Table 1 shows the classification criteria and label elements:

Table 1: Classification Criteria and Label Elements

Category	Category 1	Category 2	Category 3	Category 4
Description	Flash point < 23°C (73.4°F) and initial boiling point ≤ 35°C (95°F)	Flash point < 23°C (73.4°F) and initial boiling point > 35°C (95°F)	Flash point ≥ 23°C (73.4°F) and ≤ 60°C (140°F)	Flash point > 60°C (140°F) and ≤ 93°C (199.4°F)
Pictogram				No symbol
Signal Word	Danger	Danger	Warning	Warning
Hazard Statement	Extremely flammable liquid and vapor	Highly flammable liquid and vapor	Flammable liquid and vapor	Combustible liquid

Additional Considerations

The flash point is determined in accordance with ASTM D56-05, ASTM D3278, ASTM D3828, ASTM D93-08, or any other method specified in GHS Revision 3, Chapter 2.6. The initial boiling point is determined in accordance with ASTM D86-07a or ASTM D1078.

Note that U.S. regulatory authorities and consensus standards define Flammable and Combustible Liquids in various ways, as seen in table 3 below. Certain classification and rating systems are subject to various exceptions and qualifications that are beyond the scope of this information sheet—please refer to the applicable regulatory text for full details.

Table 2: Comparison to other regulatory authorities and consensus standards

Flash Point Closed Cup	<20°F(-7°C)	20°F(-7°C)-100°F(38°C)	100°F(38°C)-140°F(60°C)	140°F(60°C)-150°F(66°C)	150°F(66°C)-200°F(93°C)
OSHA 1994	Flammable	Flammable	Combustible	Combustible	Combustible
ANSI	Extremely Flammable	Flammable	Flammable (<141°F/60.5°C)	Combustible	Combustible
EPA RCRA	Ignitable	Ignitable	Ignitable		
DOT	Flammable	Flammable	Flammable	Combustible	Combustible
CPSC	Extremely Flammable	Flammable	Combustible	Combustible	
NFPA 30	Class I	Class I	Class II	Class IIIA	Class IIIA

With the adoption of the GHS, the parameters for flammability under the HCS harmonized with the DOT criteria. See Table 3 for a comparison of the HCS classification categories and the DOT Transport Class/Packing Group.

Table 3: HCS Criteria vs. DOT Transport Class and Packing Group

Criteria	HCS Category	Transport Class, Packing Group (PG)
Flash point < 73.4°F (23°C) and initial boiling point < 95°F (35°C)	1	3, PG I
Flash point < 73.4°F (23°C) and initial boiling point > 95°F (35°C)	2	3, PG II
Flash point ≥ 73.4°F (23°C) and ≤ 140°F(60°C)	3	3, PG III
Flash point > 140°F (60°C) and ≤ 199.4°F (93°C)	4	Combustible Liquid, PG III DOT uses <200°F (93°C)

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 HCS 2012 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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