



Are your HMIS® ratings aligned with the HCS 2012/GHS/HMIS® 4th Edition?

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OSHA HCS 2012 Guidance

- ❖ Alternative labeling systems such as the Hazardous Material Identification System (HMIS®) are permitted for workplace containers. However, the information supplied on these labels must be consistent with the revised HCS, e.g., no conflicting hazard warnings or pictograms.
- ❖ The HMIS® system may be used as part of an employer's workplace labeling system, if used in accordance with HMIS® guidelines and as long as it does not cast doubt or contradict the validity of the label information.
- ❖ In some cases, all hazards are not addressed by a particular rating system, and therefore, hazards not addressed must be communicated by words, pictures, symbols, or a combination thereof in addition to the HMIS® rating system. If any of the required label information is missing, it is not compliant with HCS 2012.

HMIS® 4th Edition Ratings

The hazard assessment and rating portion of the HMIS® 4th Edition have been aligned with the labeling requirements of HCS 2012 via "The Comparison Tables". These tables are designed to provide the user a simple means of converting GHS/HCS 2012 classifications to HMIS® ratings for Health, Flammability and Physical Hazards. **It is important to note that the "Comparison Tables" do not work in reverse. The user should not go the tables and find the HMIS® H, F or PH rating and work backwards to determine the GHS/HCS 2012 classification.**

HMIS® Health Hazard Ratings

- ❖ HMIS® Acute hazards are acute toxicity, skin corrosion/irritation, eye damage/irritation, STOT-SE, aspiration, sensitization.
- ❖ The HMIS® acute toxicity ratings for oral, dermal and inhalation do not exactly align with the GHS categories.
- ❖ The asterisk (*) is still used for chronic hazards: respiratory sensitizers, GCM, carcinogens, reproductive toxins and STOT-RE.

Health Hazards	
GHS Hazard	HMIS 4 Rating
Skin Corrosive/irritation	
Category 1A, 1B, 1C	H: 3
Category 2	H: 2
Category 3	H: 1
Eye Corrosive/irritation	
Category 1	H: 3
Category 2A	H: 2
Category 2B	H: 3
Skin sensitization	
Category 1, 1A, 1B	H: 2
Respiratory sensitization	
Category 1, 1A, 1B	H: *
Cancer	
Category 1A, 1B, 2	H: *
GCM	
Category 1A, 1B, 2	H: *
Reproductive	
Category 1A, 1B, 2	H: *
Lactation	H: 4
STOT SE	
Category 1	H: 4
Category 2	H: 3
Category 3	H: 2
STOT RE	
Category 1	H: *3
Category 2	H: *2
Aspiration	
Category 1	H: 3
Category 2	H: 2
Other	
Simple Asphyxiant	Not provided

GHS Vs. HMIS® Acute Toxicity Comparison Table				
GHS		HMIS® III		
ORAL Toxicity - Oral LD ₅₀ , mg/kg body weight				
≤ 5	1	4	≤ 1	
> 5 but ≤ 50	2	3	>1 but ≤ 50	
> 50 but ≤ 300	3	2	>50 but ≤ 500	
>300 but ≤ 2,000	4	1	>500 but ≤ 5,000	
>2,000 but ≤ 5,000	5	0	> 5,000	
DERMAL Toxicity - Dermal LD ₅₀ , mg/kg body weight				
≤ 5	1	4	≤ 20	
> 5 but ≤ 200	2	3	>20 but ≤ 200	
>200 but ≤ 1,000	3	2	>200 but ≤ 1,000	
>1,000 but ≤ 2,000	4	1	>1,000 but ≤ 2,000	
>2,000 but ≤ 5,000	5	0	>2,000	
INHALATION Toxicity (Lowest of 3 - Gas/Vapors/Dusts and Mists) Inh. L ₅₀ , mg/m ³				
≤ 0.05	1	4	≤ 0.05	
> 0.05 but ≤ 0.5	2	3	> 0.05 but ≤ 0.5	
> 0.5 but ≤ 1.0	3	2	> 0.5 but ≤ 2.0	
> 1.0 but ≤ 5.0	4	1	> 2.0 but ≤ 20.0	
Variable	5	0	> 20	

HCS 2012 In-plant Labeling

- ❖ What is your HCS 2012 in-plant labeling system?
- ❖ The information for in-plant alternative labeling systems must be consistent with HCS 2012.
- ❖ Are you using the 4th HMIS® Edition ratings to align with HCS 2012?
- ❖ What have you done to align your in-plant labeling with HCS 2012?

HMIS® Physical Hazard Ratings

- ❖ The HMIS® Physical Hazards have 8 subcategories: explosives, oxidizers (solids, liquids, gases), gases under pressure, self-reactive substances, self-heating substances, water reactives, organic peroxides, and metal corrosives.
- ❖ At this time the HMIS® Implementation Manual, 4th Edition does not provide a rating for combustible dust hazards (simple asphyxiant, pyrophoric gas).

GHS Hazard	HMIS 4 Rating
Explosive	
Unstable	PH: 4
Div 1.1	PH: 4
Div 1.2	PH: 4
Div 1.3	PH: 3
Div 1.4	PH: 2
Div 1.5	PH: 1
Div 1.6	PH: 1
Gas under pressure	
Compressed gas	PH: 3
Liquefied gas	PH: 3
Liquefied refrigerated gas	PH: 2
Dissolved gas	PH: 3
Oxidizing gas	
Category 1	PH: 2
Oxidizing liquid	
Category 1	PH: 3
Category 2	PH: 2
Category 3	PH: 1
Oxidizing solid	
Category 1	PH: 3
Category 2	PH: 2
Category 3	PH: 1

GHS Hazard	HMIS 4 Rating
Self heating	
Category 1	PH: 2
Category 2	PH: 2
Self reactive	
Type A	PH: 4
Type B	PH: 3
Types C & D	PH: 2
Types E & F	PH: 1
Type G	PH: 0
Organic peroxide	
Type A	PH: 4
Type B	PH: 4
Types C & D	PH: 2
Types E & F	PH: 1
Type G	PH: 0
Emits gas	
Category 1	PH: 4
Category 2	PH: 3
Category 3	PH: 2
Corrosive to metal	
Category 1	PH: 4
HCS 2012	
Combustible dust	Not provided

HMIS® Flammability Ratings

- ❖ The HMIS® Flammability ratings (F) include flammable gases and aerosols, flammable liquids and solids and pyrophoric liquids and solids
- ❖ The Flammability (F) flash point ranges slightly overlap.

GHS and HMIS® Flammable Liquid ratings are both Flash Point Definitions but the groupings (Categories) have slightly overlapping ranges:				
GHS Flash Point Ranges	GHS Category	HMIS® F Rating	HMIS® Flash Point Ranges	
FP < 23 C (73.4 F) BP ≤ 35C (95 F)	1	4	FP < 22.8 C (73 F) BP < 37.8 C (100 F)	
FP < 23 C (73.4 F) BP > 35 C (95 F)	2	3	FP < 22.8 C (73 F) BP ≥ 37.8 C (100 F) & FP ≥ 22.8 C (73 F) but ≤ 37.8 C (100 F)	
FP > 23 C (73.4 F) but < 60 C (140 F)	3	2	FP > 37.8 C (100 F) but ≤ 93.3 C (200 F)	
FP > 60 C (140 F) but < 93 C (199.4 F)	4	1	FP > 93.3 C (200 F)	

GHS Hazard	HMIS 4 rating
Flammable solid	
Category 1	F: 3
Category 2	F: 2
Flammable gas	
Category 1	F: 4
Category 2	F: 4
Flammable aerosol	
Category 1	F: 4
Category 2	F: 4
Pyrophoric solid	
Category 1	F: 4
Pyrophoric liquid	
Category 1	F: 4
HCS 2012	
Pyrophoric gas	Not provided

Environmental Hazards

- ❖ There are no HMIS® ratings provided for any of the GHS Environmental Hazard Classes because the HMIS® system is focused on hazards to humans (workers) in the workplace and not to the environment or animals.

References:

HMIS® Implementation Manual, Fourth Edition Revised 12/2014
 OSHA FAQs, HCS 2012 Compliance Directive CPL 02-02-079 7/9/2015; OSHA 3636
 HCS 2012 Label/Pictogram Brief