

Safety Data Sheets with New OSHA Physical and Health Hazard Classes and Tier II Reporting

On June 13, 2016, EPA published a final rule, *Hazardous Chemical Reporting: Community Right-to-Know; Revisions to Hazard Categories and Minor Corrections*, adopting the physical and health hazards from the Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard (HCS) (29 CFR 1910.1200). In the preamble to this final rule, EPA stated that facilities should use the new physical and health hazards on their emergency and hazardous chemical inventory form (also known as the "Tier II reporting form") for chemicals present at their facility starting with 2017 calendar year. Since this is a new requirement, some facilities will not obtain Safety Data Sheets (SDSs) with new physical and health hazards until the facility receives a new shipment of their chemicals. These facilities still have Material Safety Data Sheets (MSDSs) which do not include the new physical and health hazard information, making it difficult for facility owners and operators to fill out the Tier II reporting form with new physical and health hazards that EPA adopted from OSHA.

EPA developed this factsheet to assist facility owners and operators in complying with Tier II reporting requirements. It includes a cross-walk between the old and new hazard categories, as well as answers to questions that EPA received from the regulated community and states.

Background

OSHA revised its HCS on March 26, 2012 (also known as HCS 2012) to conform to the United Nations' (UN) Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The GHS was developed to improve consistency and quality of information provided to both employers and employees concerning chemical hazards and protective measures related to chemical hazards. It includes harmonized criteria for classifying and labeling hazardous chemicals for their health, physical and environmental effects, as well as for preparing SDSs (formerly "Material Safety Data Sheets"). The criteria for classifying physical and health hazards in the GHS are more specific and detailed than they were in the HCS prior to the adoption of GHS provisions.

HCS 2012 requires manufacturers and importers to evaluate their chemicals according to the new criteria to ensure that hazardous chemicals (including substances and mixtures) are classified and labeled appropriately. The standard also requires manufacturers and importers to develop or revise SDSs in a standardized 16-section format based on the new classifications. SDSs must be provided to downstream users with the first shipment of the chemical and the first shipment after the SDS is updated with new information. The compliance date of HCS 2012 was June 1, 2015; distributors were permitted an additional six months (until December 1, 2015) to ensure shipped containers were labeled according to HCS 2012. HCS 2012 is codified at 29 CFR 1910.1200.

Facilities subject to Sections 311 and 312 ("Hazardous Chemical Inventory Reporting") of the Emergency Planning and Community Right-to-Know Act (EPCRA) use the SDSs to determine potential physical and health hazards for reporting under these sections.

Since the promulgation of the hazardous chemical inventory reporting regulations in 1987, facilities have been reporting the five consolidated hazard categories that EPA modified from OSHA's original 23 physical and health hazards. The following table lists these physical and health hazard categories that facilities have been using since 1987 to comply with EPCRA Sections 311 and 312.

Table 1
OSHA's original Physical and Health Hazards Consolidated into Five Hazard Categories that EPA
used for Sections 311 and 312 Reporting

(Reporting Years 1987 to 2016)

Physical Hazard	Health Hazard (Immediate-Acute)
Fire - Flammable; Combustible liquid; Pyrophoric; Oxidizer	Highly Toxic; Toxic; Irritant; Sensitizer; Corrosives & other hazardous chemicals that cause an adverse effect to a target organ and which effect usually occurs rapidly as a result of a short term exposure and is of short duration.
Sudden Release of Pressure – Explosive; Compressed Gas	Health Hazard (Delayed-Chronic)
Reactive - Unstable Reactive; Organic Peroxide; Water Reactive	Carcinogens & other hazardous chemicals that cause an adverse effect to a target organ and which effect generally occurs as a result of long term exposure and is of long duration.

EPA's Adoption of OSHA's Physical and Health Hazards

To align with OSHA's new physical and health hazard classes and the newly developed SDSs, EPA published a final rule on June 13, 2016, revising the regulations under EPCRA Sections 311 and 312 (40 CFR part 370) as well as the Tier II inventory form. Table 2 lists OSHA's current physical and health hazards that EPA adopted in June 2016.

Table 2
Physical and Health Hazards that EPA adopted from OSHA - June 2016

Physical Hazards	Health Hazards
Flammable (gases, aerosols, liquids, or solids)	Skin Corrosion or Irritation
Pyrophoric (liquid or solid)	Acute toxicity (any route of exposure)
Pyrophoric gas	Respiratory or Skin Sensitization
Oxidizer (liquid, solid or gas)	Serious eye damage or eye irritation
Organic Peroxide	Simple Asphyxiant
Explosive	Aspiration Hazard
Gas under pressure	
Combustible Dust	Carcinogenicity
In contact with water emits flammable gas	Specific target organ toxicity (single or repeated exposure)
Self-reactive	Reproductive toxicity
Self-heating	Germ cell mutagenicity
Corrosive to metal	
Hazard Not Otherwise Classified (HNOC)	Hazard Not Otherwise Classified (HNOC)

Facilities that have not received the new SDS until they receive a new shipment of their chemicals, should contact the manufacturer, importer, or distributor to obtain an updated SDS for their chemicals. However, to assist facilities that may still have MSDSs with the original physical and health hazards, EPA developed a crosswalk of the EPA's previous five consolidated hazard categories to the physical and health hazards that EPA adopted from OSHA. See Table 3 below.

**Table 3
Cross-Walk: EPA’s previous Hazard Categories and OSHA’s HCS 2012 physical and health hazards**

Physical Hazards (OSHA original - prior to adopting GHS in 2012)	Physical Hazards (Reporting Years 1987 – 2016) (OSHA’s original physical hazards consolidated into three physical hazard categories for EPA use)	Physical Hazards (Reporting Years 2017 and beyond) (OSHA’s 2012 physical hazards that EPA adopted in 2016)
Combustible liquid	Fire - (Flammable; Combustible liquid; Pyrophoric; Oxidizer)	Flammable (gases, aerosols, liquids, or solids)
Flammable		Pyrophoric (liquid or solid)
Oxidizer		Pyrophoric gas
Pyrophoric		Oxidizer (liquid, solid or gas)
Compressed Gas	Sudden Release of Pressure – (Explosive; Compressed Gas)	Explosive
Explosive		Gas under pressure Combustible Dust
Corrosive	Reactive – (Unstable Reactive; Organic Peroxide; Water Reactive)	Self-reactive
Organic Peroxide		Organic Peroxide
Unstable Reactive		Self-heating
Water Reactive		Corrosive to metal
		In contact with water emits flammable gas
		Hazard Not Otherwise Classified (HNOC)
Health Hazards (OSHA original - prior to adopting GHS in 2012)	Health Hazards (Reporting Years 1987 – 2016) (OSHA’s original health hazards consolidated into two health hazard categories for EPA use)	Health Hazards (Reporting Year 2017 and beyond) (OSHA’s 2012 health hazards that EPA adopted in 2016)
	Health Hazard (Immediate-Acute)	
Highly Toxic	Highly Toxic; Toxic; Irritant; Sensitizer; Corrosives & other hazardous chemicals that cause an adverse effect to a target organ and which effect usually occurs rapidly as a result of a short-term exposure and is of short duration.	Skin Corrosion or Irritation
Irritant		Acute Toxicity (any route of exposure)
Sensitizer		Respiratory or Skin Sensitization
Toxic		Serious eye damage or eye irritation
Eye Hazard		Simple Asphyxiant
Skin Hazard		Aspiration Hazard
	Health Hazard (Delayed-Chronic)	
Kidney Toxin	Carcinogens & other hazardous chemicals that cause an adverse effect to a target organ and which effect generally occurs as a result of long term exposure and is of long duration.	Specific target organ toxicity (single or repeated exposure)
Liver Toxin		Reproductive Toxicity
Lung Toxin		Germ Cell Mutagenicity
Nervous System Toxin		Carcinogenicity

Questions & Answers

The following questions and answers are based on those received from the regulated community regarding SDSs and the new physical and health hazards that EPA adopted from OSHA. The hard copy of the Tier II form with new hazard categories is available at: <https://www.epa.gov/epcra/epcra-tier-ii-emergency-and-hazardous-chemical-inventory-form>. The instructions to the Tier II form is available at: <https://www.epa.gov/epcra/epcra-instructions-tier-ii-emergency-and-hazardous-chemical-inventory-form>.

Question: If facilities only have the MSDSs for their chemicals before OSHA adopted the GHS classification, how should the facility report their chemicals using the new physical and health hazards?

Answer: OSHA's HCS 2012, in 29 CFR 1910.1200 (g)(6)(i), states that manufacturers and importers shall ensure that distributors and employers are provided appropriate SDSs with the first shipment of their chemicals, and the first shipment after the SDS is updated to reflect new information. Downstream users may contact the chemical manufacturer, importer, or distributor to obtain the updated SDSs for their chemicals. If facilities are unable to obtain the SDSs, you may use the cross-walk provided in Table 3 of this factsheet or use your best judgement to report the physical or health hazards as provided on the MSDS.

Question: OSHA's HCS 2012 requires manufacturers and importers to evaluate their chemicals and classify them using the new classification criteria and provide SDSs with the new hazard classification to downstream users with the next shipment of their chemicals. Downstream users of the chemicals may find that that some SDSs show that their chemicals are now under a different hazard classification than they were under the old standard. In some cases, SDSs show that chemicals that were hazardous are no longer hazardous. Should facilities complying with EPCRA Section 312 rely on the new SDSs or report the information as they had reported previously?

Answer: Facilities subject to Section 312 of EPCRA may assume that the chemicals are re-evaluated and classified accurately by manufacturers and importers using the GHS classification system that OSHA adopted, and therefore rely on the SDSs to report the hazardous chemicals accordingly on their EPCRA Section 312 report (Tier II inventory form).

Question: A facility stores two hazardous chemicals with similar properties, but that are manufactured by different companies. The SDS for one of the chemicals lists that it is hazardous but the SDS for the other chemical says it is non-hazardous. How should the facility report these chemicals under Sections 311 and 312?

Answer: If the facility was reporting these two chemicals in prior years, EPA encourages the facility to report both chemicals as before. If the facility is reporting these chemicals for the first time and if the facility believes that both should be reported on the Tier II form, then provide same hazards for both chemicals. In case of doubt, facilities may provide both SDSs to their SERC, LEPC and their fire department and a letter of explanation.

Question: A facility is unable to obtain an SDS with new physical and health hazards listed for EPCRA Section 311 & 312 reportable chemical, and, therefore, is unable to determine which of the new physical and health hazards apply. The facility purchased this chemical more than 15 years ago and has a MSDS, but have been unsuccessful in obtaining an SDS because the manufacturer is no longer in business or is no longer manufacturing the chemical.

Answer: EPA has developed a cross-walk (see Table 3 of this factsheet) of EPA's previous five consolidated hazard categories and OSHA's new physical and health hazards. Facilities that have hazardous chemicals purchased prior to June 1, 2015 (OSHA's HCS 2012 compliance date) may use

this cross-walk to report their hazardous chemicals with the new hazard categories that EPA published in June 2016.

Resources

- June 13, 2016, FR Notice: [Hazardous Chemical Reporting: Community Right-to-Know; Revisions to Hazard Categories and Minor Corrections \(81 FR 38104\)](#) (6 pp, 233 K, About PDF)
- July 21, 2016, FR Notice: [Hazardous Chemical Reporting: Community Right-to-Know; Revisions to Hazard Categories and Minor Corrections; Correction \(81 FR 47311\)](#) (2 pp, 218 K, About PDF)
- Tier II Inventory Form and Instructions: <https://www.epa.gov/epcra/tier-ii-forms-and-instructions>
- Confidential Location Information Form: <https://www.epa.gov/epcra/epcra-tier-ii-confidential-location-information-form>