

Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

**Sub-Committee of Experts on the Globally Harmonized System
of Classification and Labelling of Chemicals**

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Item 2 (h) of the provisional agenda

**Work on the Globally Harmonized System of Classification and
Labelling of Chemicals: Hazard communication for gases
addressed in the Montreal Protocol and other conventions**

Revision of chapter 4.2 to include classification and hazard communication for greenhouse gasses listed in the annexes of the Montreal Protocol

**Transmitted by the experts from Austria, Finland, Germany, the United
Kingdom, the United States of America and the European Union**

This informal document sets out the changes proposed in document ST/SG/AC.10/C.4/2023/4.
Existing (unchanged) text is shown in black, with new text (including existing text placed in a
different location) is shown in blue and deleted text is shown in ~~red strikethrough~~.

Amendments to chapter 4.2

“CHAPTER 4.2

HAZARDOUS TO THE ~~OZONE LAYER~~ ATMOSPHERIC SYSTEM

4.2.1 Definitions and general considerations

This chapter covers substances and mixtures that are hazardous to the atmospheric system due to their ozone depleting and/or global warming potential. For the purposes of this chapter, the following definitions apply:

Montreal Protocol is the Montreal Protocol on Substances that Deplete the Ozone Layer as either adjusted and/or amended by the Parties to the Protocol.

Ozone Depleting Potential (~~ODP~~) is an integrative quantity, distinct for each halocarbon source species, that represents the extent of ozone depletion in the stratosphere expected from the halocarbon on a mass-for-mass basis relative to CFC-11. The formal definition of ~~ODP~~ *ozone depleting potential* is the ratio of integrated perturbations to total ozone, for a differential mass emission of a particular compound relative to an equal emission of CFC-11.

Global Warming Potential is a metric that compares the ability of a substance or mixture to trap heat in the atmosphere as compared to a benchmark gas (generally carbon dioxide). The formal definition of global warming potential is the cumulative radiative forcing, both direct and indirect effects, over a specified time horizon resulting from the emission of a unit mass of gas relative to that of carbon dioxide (as the reference gas).

4.2.2 Classification criteria¹

4.2.2.1 Substances and mixtures are classified into the hazardous to the ozone layer hazard class due to their ozone depleting potential in accordance with 4.2.2.2 and/or hazardous by contributing to global warming hazard class by their global warming potential in accordance with 4.2.2.3, independently.

4.2.2.2 Hazardous to the ozone layer

A substance or mixture shall be classified as Category 1 *hazardous to the ozone layer* according to the following table¹:

Table 4.2.1: Criteria for substances and mixtures hazardous to the ozone layer

Category	Criteria
1	Any of the controlled substances listed <i>with an ozone depleting potential</i> in annexes to the Montreal Protocol; or Any mixture containing at least one ingredient listed in <i>with an ozone depleting potential</i> in the annexes to the Montreal Protocol, at a concentration ≥ 0.1 %

¹ The criteria in this chapter are intended to be applied to substances and mixtures. Equipment, articles or appliances (such as refrigeration or air conditioning equipment) containing substances hazardous to the *atmospheric system ozone layer* are beyond the scope of these criteria. Consistent with 1.1.2.5 (a)(iii) regarding pharmaceutical products, GHS classification and labelling criteria do not apply to medical inhalers at the point of intentional intake.

4.2.2.3 *Hazardous by contributing to global warming*

A substance or mixture shall be classified in Category 1 hazardous to global warming according to the following table¹:

Table 4.2.2: Criteria for substances and mixtures that are hazardous by contributing to global warming

Category	Criteria
1	Any of the controlled substances listed with a global warming potential in annexes to the Montreal Protocol; or Any mixture containing at least one ingredient listed with a global warming potential in the annexes to the Montreal Protocol, at a concentration ≥ 0.1 %

4.2.3 Hazard communication

4.2.3.1 General and specific considerations concerning labelling requirements are provided in *Hazard Communication: Labelling* (chapter 1.4). Annex 1 contains summary tables about classification and labelling. Annex 3 contains examples of precautionary statements and pictograms which can be used where allowed by the competent authority. Table 4.2.2-3 presents specific label elements for substances and mixtures classified into this hazard class based on the criteria in this chapter.

Table 4.2.23: Label elements for substances and mixtures hazardous to the ~~ozone layer~~ atmospheric system

	Category 1	Category 1
	Hazardous to the ozone layer	Hazardous by contributing to global warming
Symbol	Exclamation mark	Exclamation mark
Signal word	Warning	Warning
Hazard statement	Harms public health and the environment by destroying ozone in the upper atmosphere	Harms public health and the environment by contributing to global warming

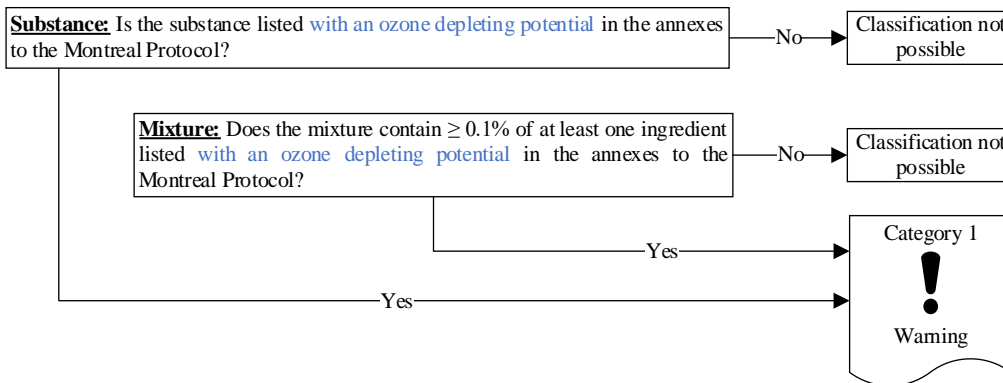
4.2.3.2 Some substances and mixtures meet the criteria for classification as hazardous to the ozone layer and hazardous by contributing to global warming. In these cases, the principles outlined in A3.1.2.5 for combining hazard statements can be used to combine the hazard statements for both hazard classes into a single hazard statement (i.e., Harms public health and the environment by contributing to global warming and destroying ozone in the upper atmosphere.).

4.2.4 Decision logic for substances and mixtures hazardous to the atmospheric system ~~ozone layer~~

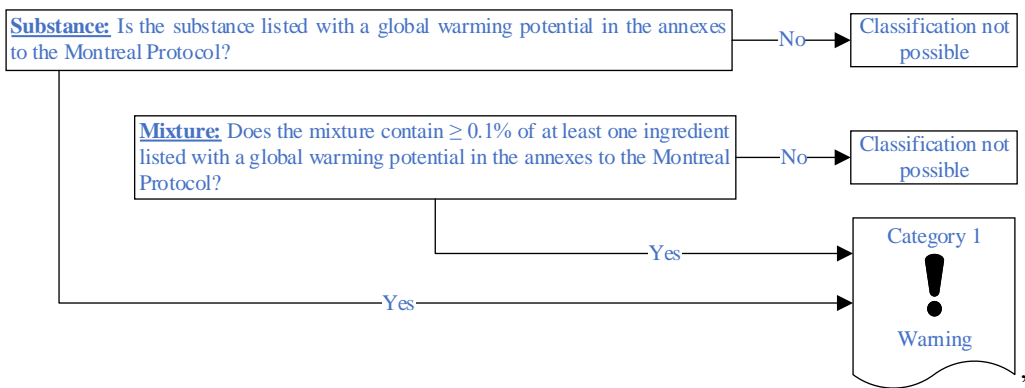
The decision logics for hazardous to the ozone layer (see 4.2.2.2) and hazardous by contributing to global warming (see 4.2.2.3) ~~The decision logic~~ which follows ~~is~~ are not part of the harmonized classification system but is provided here as additional guidance. It is strongly recommended that the person responsible for classification study the criteria before and during use of the decision logics.

¹ The criteria in this chapter are intended to be applied to substances and mixtures. Equipment, articles or appliances (such as refrigeration or air conditioning equipment) containing substances hazardous to the ~~atmospheric system ozone layer~~ are beyond the scope of these criteria. Consistent with 1.1.2.5 (a)(iii) regarding pharmaceutical products, GHS classification and labelling criteria do not apply to medical inhalers at the point of intentional intake.

Decision logic 4.2.1 for hazardous to the ozone layer



Decision logic 4.2.2 for hazardous by contributing to global warming



Consequential amendments to other parts of the GHS


Amendments to chapter 1.2

Global Warming Potential is a metric that compares the ability of a substance or mixture to trap heat in the atmosphere as compared to a benchmark gas (generally carbon dioxide). The formal definition of global warming potential is the cumulative radiative forcing, both direct and indirect effects, over a specified time horizon resulting from the emission of a unit mass of gas relative to that of carbon dioxide (as the reference gas).

Ozone Depleting Potential (ODP) is an integrative quantity, distinct for each source species, that represents the extent of ozone depletion in the stratosphere expected from the species on a mass-for-mass basis relative to CFC-11. The formal definition of ~~ODP~~ *ozone depleting potential* is the ratio of integrated perturbations to total ozone, for a differential mass emission of a particular compound relative to an equal emission of CFC-11.

Amendments to annex 1

A1.30 Hazardous to the ~~ozone layer~~ atmospheric system (see chapter 4.2 for classification criteria)

Classification			Labelling				GHS hazard statement code
GHS hazard class	GHS hazard category	UN Model Regulations class or division	GHS pictogram	UN Model Regulations pictograms	GHS signal word	GHS hazard statement	
Hazardous to the ozone layer	1	Not applicable		Not applicable	Warning	Harms public health and the environment by destroying ozone in the upper atmosphere	H420
Hazardous by contributing to global warming	1					Harms public health and the environment by contributing to global warming	H421

Amendments to annex 3, section 1

Table A3.1.3: Hazard statement codes for environmental hazards

Code (1)	Environmental hazard statements (2)	Hazard class (GHS chapter) (3)	Hazard category (4)
H421	Harms public health and the environment by contributing to global warming	Hazardous by contributing to global warming (chapter 4.2)	1

Amendments to annex 3, section 2


Table A3.2.5: Disposal precautionary statements

Code (1)	Disposal precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P502	Refer to manufacturer or supplier for information on recovery or recycling.	Hazardous to the ozone layer (chapter 4.2)	1	
		Hazardous by contributing to global warming (chapter 4.2)	1	

Amendments to annex 3, section 3

HAZARDOUS TO THE ~~OZONE LAYER~~ ATMOSPHERIC SYSTEM
(CHAPTER 4.2)

(Hazardous to the ozone layer)

Hazard category	Symbol		Signal word	Hazard statement
1	Exclamation mark		Warning	Harms public health and the environment by destroying ozone in the upper atmosphere

Precautionary statements			
Prevention	Response	Storage	Disposal
			P502 Refer to manufacturer or supplier for information on recovery or recycling

HAZARDOUS TO THE ATMOSPHERIC SYSTEM
(CHAPTER 4.2)

(Hazardous by contributing to global warming)

Hazard category	Symbol		Signal word	Hazard statement
1	Exclamation mark		Warning	Harms public health and the environment by contributing to global warming

Precautionary statements			
Prevention	Response	Storage	Disposal
			P502 Refer to manufacturer or supplier for information on recovery or recycling