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**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**
(Fifth session, 7-9 July 2003,
agenda item 3)

COOPERATION WITH OTHER INTERNATIONAL ORGANIZATIONS

**Classification and Labelling of Ozone Depleting
Substances under the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer**

**Prepared by the Ozone Secretariat in consultation with the
Expert Group on Customs Codes of the Montreal Protocol**

1. The Earth's stratospheric ozone layer is a natural feature of the planet's atmosphere. It was formed as the early atmosphere evolved. Beginning in the 1880s and extending into the early decades of the 20th century, scientists discovered that the ozone layer existed, began to explore its features, and sought to explain its existence. In the 1930s, researchers gradually clarified the chemical mechanisms whereby the ozone layer is maintained. Namely, these are a balance of (i) the production of ozone from oxygen by solar radiation and (ii) the destruction of ozone by chemical reactions with naturally occurring atmospheric chemical species. The fact that this ozone loss occurred by "catalytic" reactions meant that relatively small amounts of the reacting chemicals could remove substantial amounts of ozone from the atmosphere without themselves being consumed. It was also recognized very early that air motions distribute ozone globally to yield the observed patterns of the stratospheric ozone layer.

2. Parallel with this development of the understanding of the ozone layer itself grew the recognition of its importance to life on Earth. It was recognized already in the 1880s that the ozone layer absorbed most of the short-wavelength solar ultraviolet radiation, UV-B. Further, biological studies were characterizing the positive and negative impacts of UV-B radiation of various life forms. While it was noted that UV-B radiation would promote the formation of vitamin D in human skin (1937) and would kill bacteria (1929), it was also found that it had damaging effects on humans, such as sunburn (1922) and skin cancer (1928), and that it had important deleterious impacts on plants (1965).

3. In 1928, industrial chemistry developed a nonflammable, non-toxic compound – a chlorofluorocarbon (CFC) – to replace the hazardous compounds (such as methyl chloride and sulfur dioxide) then used in home refrigerators. During the 1950s, CFCs came into widespread use. Successful, low-cost, and sought-after CFC applications expanded in the 1970s: refrigerants, air conditioning, foam blowing agents, solvents and medical applications, for which there were few alternatives that were recognized at the time. Similarly, halons (compounds containing bromine and fluorine, or bromine, chlorine and fluorine) were developed and marketed as fire protection because of their effectiveness and low cost. In addition, over half of the CFC production was for “lower-value” applications, particularly aerosol-propelled personal care products, pesticides, noisemakers, dust blowers and toys.

4. In the mid-1970s, two discoveries brought the ozone issue to the attention of the wide public. First, it was hypothesized that chlorine and bromine chemistry could also participate in catalytic ozone destruction in the stratosphere. Second, it was proposed that break-up of CFCs and halons in the stratosphere by solar radiation would greatly enhance the chlorine and bromine catalytic chemistry, that the growing use of CFCs and halons would thereby lead to a thinning of the ozone layer and that harmful effects of UV-B radiation would ensue. Further, since the CFCs and halons were shown to have long (decades-to-centuries) residence times in the atmosphere, it implied that the ozone loss would continue long after any reductions in CFCs and halon emissions. Twenty years hence, the 1995 Nobel Prize in Chemistry would be awarded to three scientists for recognizing the significance of the atmospheric chemistry of ozone formation and loss, particularly the roles of nitrogen chemistry and of the CFCs (for more general information on the ozone layer and its science and history, see references: Andersen & Sarma, 2002).

5. In 1981, UNEP’s Governing Council established an ad-hoc working group of legal and technical experts to elaborate a global framework treaty for the protection of the ozone layer. The group’s aim was to secure a general international treaty to tackle ozone depletion. Differences between the proponents of control measures on the use of ozone depleting substances and supporters of caps on existing production capacity resulted in four years of hard negotiations.

6. The Vienna Convention for the Protection of the Ozone Layer was agreed by 28 countries in March 1985 and entered into force in September 1988. The Convention contains commitments to cooperate in research and monitoring, to share information on the levels of ozone in the atmosphere, on concentrations of substances that may affect or deplete the ozone layer, including in particular man-made substances such as CFCs, HCFCs and halons, and to adopt and coordinate legal and administrative control measures, should they be needed to protect the ozone layer.

7. Following the provisions of the Vienna Convention, the Montreal Protocol on Substances that Deplete the Ozone Layer was agreed upon in September 1987 by 46 countries, and entered into force in January 1989. The Protocol originally provided for the Parties to reduce by 1999 the production and consumption of five CFCs and three halons by 50%. By 1999, the Parties to the Montreal Protocol had already decided to amend the Protocol four times thus extending the list of controlled substance to 96, and to adjust the Protocol five times to establish faster time-tables of phasing out the consumption and production of these substances.

8. Each of the substances controlled under the Montreal Protocol is characterized by an ozone-depleting potential (ODP). The Science Assessment Panel established by the Parties to the Montreal Protocol under Article 6, has provided in its most recent scientific assessment of the ozone layer the following explanation and definition to the concept of ODP (Montreal Protocol, 2003, paragraph 1.4.4):

“The Ozone Depletion 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 is the ratio of integrated perturbation to total ozone, for a differential mass emission of CFC-11.”

It should be noted that a list of 96 controlled substances is now included in the Montreal Protocol in its annexes A, B, C and E (see Annex I to this document). The controlled substances under the Montreal Protocol include also all the isomers of the 96 listed substances, unless specifically excluded (for example, the substance 1,1,2-trichloroethane).

The substances listed in the annexes to the Montreal Protocol are commonly referred to as ozone-depleting substances or ODSs. It should be emphasized that the list of substances controlled under the Montreal Protocol, as well as their ODP values, can be changed only through an amendment to the Montreal Protocol. The Parties to the Protocol indeed review from time to time the list of controlled substances and the ODP values attached to them, based on the evaluation provided by the assessment panels nominated by the Parties.

It should also be noted that generally speaking, all ODSs are substances that have non-zero ODPs, they contain chlorine and/or bromine, are volatile and have an atmospheric lifetime extending from more than several days up to hundreds of years.

9. The Montreal Protocol divides the controlled substances into the following nine groups and subgroups:

- (a) 5 Chlorofluorocarbons (CFCs), listed under Annex A, Group I of the Protocol;
- (b) 10 Chlorofluorocarbons (CFCs), listed under Annex B, Group I of the Protocol;
- (c) 3 Halons, listed under Annex A, Group II of the Protocol;
- (d) Carbon tetrachloride (CTC), one substance listed under Annex B, Group II of the Protocol;
- (e) Methyl chloroform (MCF), one substance listed under Annex B, Group III of the Protocol;
- (f) 40 Hydrochlorofluorocarbons (HCFCs), listed under Annex C, Group I of the Protocol;
- (g) 34 Hydrobromofluorocarbons (HBFCs), listed under Annex C, Group II of the Protocol;
- (h) Bromochloromethane (CBM), one substance listed under Annex C, Group III of the Protocol; and
- (i) Methyl Bromide (MB), one substance listed under Annex E, Group I of the Protocol.

The separate timetable for phasing out the production and consumption of ODSs listed in each subgroup is available in the reference: Ozone Secretariat, 2001.

10. As at 15 March 2003, the 1985 Vienna Convention was ratified by 185 countries of the world, and the 1987 Montreal Protocol was ratified by 184. The 1990 London Amendment of the Montreal Protocol was ratified by 164 Parties, the 1992 Copenhagen Amendment by 146 Parties, the 1997 Montreal Amendment by 92 Parties and the 1999 Beijing Amendment by 47 parties (Ozone Secretariat, 2003).

11. The Parties to the Montreal Protocol, at their first meeting in 1989, focused their discussion on means that would facilitate the Parties in the reporting of production and consumption of controlled substances and proposed modifications to the Harmonized Coding System of the Customs Cooperation Council (now, the World Customs Organization, or WCO), that would allocate specific customs codes to the pure controlled substances listed by the Montreal Protocol (Saka and Maiano, 1999). The WCO responded positively to the

request of the Parties to the Montreal Protocol by allocating new codes to the eight substances included in Annex A to the Montreal Protocol (combining some of them under a common code), and recommending to the Parties to the Harmonized System Convention to take actions to reflect the newly allocated codes in their national statistical nomenclature (Decision II/12 in 1990) until a change could be made at the international level. It also contained a recommendation for a code for ODS mixtures, specially designed to cover some CFC refrigerant mixtures. In Decision IV/9 (in 1992), the Meeting of the Parties urged all Parties to take these actions. The new codes for Annex A substances were subsequently included in 1996 in the harmonized System at the international level.¹

12. In further decisions by the Parties to the Montreal Protocol (Decisions IX/22 in 1997 and X/18 in 1998), WCO was urged to revise the Harmonized System and its recommendations for national codes to allow specific codes also for other mixtures of ODSs and some Annex C, Group I substances (HCFCs). In June 1999, WCO recommended a number of national customs codes under the Harmonized System thus completing the allocation of codes to all the ODSs in pure form controlled by the Montreal Protocol. In Decision XIV/7(3) in 2002, each Party to the Protocol was urged to introduce in its national customs classification system the separate subdivision recommended by the WCO for the most commonly traded HCFCs and other ODSs. A table summarizing the ODSs in pure form that were allocated codes under the WCO Harmonized System is annexed to this document as Annex III.

13. Until 1999, only ODSs in pure form were allocated customs codes under the WCO Harmonized System. In Decision XI/26(3) in 1999, the Parties to the Montreal Protocol requested the Expert Group on Customs Codes, which they appointed by Decision X/18(2), to further work on recommendations for customs codes under the Harmonized System related to mixtures containing ODSs, in collaboration with the WCO. These new suggested customs codes would cover the classification of products of significant importance in international trade such as preparations of mixtures of ODSs or of mixtures of non-ODSs and ODSs. A specific example of such a widely used preparation which was considered by the Parties is the mixture of chloropicrine (a non-ODS) with methyl bromide (an ODS) (Decision XI/26(3)). The suggestions of the Expert Group to the WCO on specific customs codes that could be added to the WCO Harmonized System were presented to the 14th Meeting of the Parties to the Montreal Protocol (see reference: Ozone Secretariat, 2002).

14. The above mentioned decisions on customs codes taken by the Parties to the Montreal Protocol emphasize the usefulness of the Harmonized System Customs Codes for tracking imports of ODSs and for cross-checking and monitoring their consumption of ODSs as well as ensure the compliance of the Parties with their obligations under the Montreal Protocol. The Parties further noted that the use of customs codes to uniquely identify ODSs in international trade is of great importance to combat illegal traffic in ODSs (Decision XI/26 in 1999).

15. Recognizing the threat of illegal trade in ODSs, mixtures and products containing ODSs to the global process of ozone layer protection, and acknowledging that it is important to understand the status of and take into account ongoing work in this area by other international bodies, the Ozone Secretariat was requested to prepare a report for the consideration of the Parties at its Fourteenth Meeting of the Parties in 2002 on the monitoring of international trade and prevention of illegal trade in ODSs, mixtures and products containing ODSs (Decision XII/10(1) in 2000, Decision XIII/12 in 2001 and Decision XIV/7 in 2002). The concern of

¹ For a full listing of the decisions of the Parties to the Montreal Protocol on classification and labeling of ODSs, see Annex II to this document.

the Parties, regarding the danger of disruption that could be caused to the implementation of the Montreal Protocol by illegal trade in ODSs and their mixtures, is reflected in the numerous deliberations held by the Parties to the Montreal Protocol in their meetings (for example, see the Report of the 14th MOP, paragraphs 89-98, reference: Ozone Secretariat, 2002a).

16. The requested study on international trade and illegal trade in ODSs (Ozone Secretariat, 2002b), which was indeed debated extensively by the Parties and decided upon in Decision XIV/7, includes the following practical suggestions regarding labelling and customs codes (paragraphs 82 and 83 of the study):

“Labelling

In this chapter we examined various options for improving identification and tracking systems for ODS mixtures and products containing ODS. In the area of labelling the following conclusions are drawn:

- (a) For virgin substances, given the wide range of labelling systems already in place and the relative ease with which they can be falsified, together with the existence of other ways of tracking movements of ODS such as customs codes and export and import licences, there is no value in trying to introduce a new, universal labelling system;
- (b) For used substances, where the volume in trade is much lower and the problem of illegal trade is particularly strong, the reverse, however, is true. A consultation exercise involving the industry and Governments could therefore usefully be undertaken to identify more clearly the feasibility, costs and benefits of labelling used ODS;
- (c) Given the large number of products containing ODS in trade, a universal labelling system would be exceptionally difficult to introduce, although it might be possible to develop a labelling system for key products such as refrigeration and air-conditioning equipment. A consultation exercise should be undertaken with the industry over the feasibility, costs and benefits of introducing a voluntary common system for identifying the ODS contained in such products.

Customs Codes

Customs codes provide an alternative and in many ways superior method of identifying substances, mixtures and products in trade. Parties may wish to consider the following measures to assist in combating illegal trade:

- (a) Listing the most commonly traded HCFCs, and also the most common HFCs, under separate HS codes. The Ozone Secretariat could pursue this matter with WCO, but pending the outcome of any discussions, all Parties to the Protocol should be encouraged to develop their own national codes for these ODSs;
- (b) Development of specific sub-headings for ODS mixtures, initially as recommendations for national codes and potentially for eventual incorporation into the Harmonized System proper. Discussions on this matter are already under way in the Montreal Protocol ad hoc Customs Codes Discussion Group;
- (c) A review and possible revision of decision I/12A to specify clearly that no matter which

customs code is given to an ODS-containing mixture, such a mixture must be considered to be a substance subject to the phase-out schedules;

(d) Development of customs codes to identify key products containing ODS. Further consideration of feasibility is required in this regard.”

17. In their Fourteenth Meeting of the Parties, the Parties in 2002 took for the first time a separate decision on labelling of ODSs. In Decision XIV/8, “Consideration of the use of the Globally Harmonized System for the Classification and Labelling of chemicals that deplete the ozone layer”, the Parties note the value that could be attributed to labelling ODSs under the Globally Harmonized System of Classification and Labelling of chemicals, such as: providing information with respect to identifying the safe handling of these substances in trade, in the workplace, and in consumer products. The Parties requested the Ozone Secretariat to contact the Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemical (SCEGHS), to evaluate the possibilities for and feasibility of including ODSs on its work programme.

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ANNEX I

Annexes to the 1987 Montreal Protocol

Annex A: Controlled substances

Group	Substance	Ozone-Depleting Potential*
Group I		
CFCl ₃	(CFC-11)	1.0
CF ₂ Cl ₂	(CFC-12)	1.0
C ₂ F ₃ Cl ₃	(CFC-113)	0.8
C ₂ F ₄ Cl ₂	(CFC-114)	1.0
C ₂ F ₅ Cl	(CFC-115)	0.6
Group II		
CF ₂ BrCl	(halon-1211)	3.0
CF ₃ Br	(halon-1301)	10.0
C ₂ F ₄ Br ₂	(halon-2402)	6.0

* These ozone depleting potentials are estimates based on existing knowledge and will be reviewed and revised periodically.

Annex B: Controlled substances

Group	Substance	Ozone-Depleting Potential
Group I		
CF ₃ Cl	(CFC-13)	1.0
C ₂ FCI ₅	(CFC-111)	1.0
C ₂ F ₂ Cl ₄	(CFC-112)	1.0
C ₃ FCI ₇	(CFC-211)	1.0
C ₃ F ₂ Cl ₆	(CFC-212)	1.0
C ₃ F ₃ Cl ₅	(CFC-213)	1.0
C ₃ F ₄ Cl ₄	(CFC-214)	1.0
C ₃ F ₅ Cl ₃	(CFC-215)	1.0
C ₃ F ₆ Cl ₂	(CFC-216)	1.0
C ₃ F ₇ Cl	(CFC-217)	1.0
Group II		
CCl ₄	carbon tetrachloride	1.1
Group III		
C ₂ H ₃ Cl ₃ *	1,1,1-trichloroethane* (methyl chloroform)	0.1

* This formula does not refer to 1,1,2-trichloroethane.

Annex C: Controlled substances

Group	Substance	Number of isomers	Ozone-Depleting Potential*
<i>Group I</i>			
CHFC ₂	(HCFC-21)**	1	0.04
CHF ₂ Cl	(HCFC-22)**	1	0.055
CH ₂ FCI	(HCFC-31)	1	0.02
C ₂ HFCl ₄	(HCFC-121)	2	0.01–0.04
C ₂ HF ₂ Cl ₃	(HCFC-122)	3	0.02–0.08
C ₂ HF ₃ Cl ₂	(HCFC-123)	3	0.02–0.06
CHCl ₂ CF ₃	(HCFC-123)**	—	0.02
C ₂ HF ₄ Cl	(HCFC-124)	2	0.02–0.04
CHFCICF ₃	(HCFC-124)**	—	0.022
C ₂ H ₂ FCI ₃	(HCFC-131)	3	0.007–0.05
C ₂ H ₂ F ₂ Cl ₂	(HCFC-132)	4	0.008–0.05
C ₂ H ₂ F ₃ Cl	(HCFC-133)	3	0.02–0.06
C ₂ H ₃ FCI ₂	(HCFC-141)	3	0.005–0.07
CH ₃ CFCl ₂	(HCFC-141b)**	—	0.11
C ₂ H ₃ F ₂ Cl	(HCFC-142)	3	0.008–0.07
CH ₃ CF ₂ Cl	(HCFC-142b)**	—	0.065
C ₂ H ₄ FCI	(HCFC-151)	2	0.003–0.005
C ₃ HFCl ₆	(HCFC-221)	5	0.015–0.07
C ₃ HF ₂ Cl ₅	(HCFC-222)	9	0.01–0.09
C ₃ HF ₃ Cl ₄	(HCFC-223)	12	0.01–0.08
C ₃ HF ₄ Cl ₃	(HCFC-224)	12	0.01–0.09
C ₃ HF ₅ Cl ₂	(HCFC-225)	9	0.02–0.07
CF ₃ CF ₂ CHCl ₂	(HCFC-225ca)**	—	0.025
CF ₂ ClCF ₂ CHClF	(HCFC-225cb)**	—	0.033
C ₃ HF ₆ Cl	(HCFC-226)	5	0.02–0.10
C ₃ H ₂ FCI ₅	(HCFC-231)	9	0.05–0.09
C ₃ H ₂ F ₂ Cl ₄	(HCFC-232)	16	0.008–0.10
C ₃ H ₂ F ₃ Cl ₃	(HCFC-233)	18	0.007–0.23
C ₃ H ₂ F ₄ Cl ₂	(HCFC-234)	16	0.01–0.28
C ₃ H ₂ F ₅ Cl	(HCFC-235)	9	0.03–0.52
C ₃ H ₃ FCI ₄	(HCFC-241)	12	0.004–0.09
C ₃ H ₃ F ₂ Cl ₃	(HCFC-242)	18	0.005–0.13
C ₃ H ₃ F ₃ Cl ₂	(HCFC-243)	18	0.007–0.12
C ₃ H ₃ F ₄ Cl	(HCFC-244)	12	0.009–0.14
C ₃ H ₄ FCI ₃	(HCFC-251)	12	0.001–0.01
C ₃ H ₄ F ₂ Cl ₂	(HCFC-252)	16	0.005–0.04
C ₃ H ₄ F ₃ Cl	(HCFC-253)	12	0.003–0.03
C ₃ H ₅ FCI ₂	(HCFC-261)	9	0.002–0.02
C ₃ H ₅ F ₂ Cl	(HCFC-262)	9	0.002–0.02
C ₃ H ₆ FCI	(HCFC-271)	5	0.001–0.03

Group	Substance	Number of isomers	Ozone-Depleting Potential*
Group II			
CH ₂ Br ₂	(HBFC-22B1)	1	1.00
CHF ₂ Br		1	0.74
CH ₂ FBr		1	0.73
C ₂ H ₂ FBr ₄		2	0.3–0.8
C ₂ HF ₂ Br ₃		3	0.5–1.8
C ₂ HF ₃ Br ₂		3	0.4–1.6
C ₂ HF ₄ Br		2	0.7–1.2
C ₂ H ₂ FBr ₃		3	0.1–1.1
C ₂ H ₂ F ₂ Br ₂		4	0.2–1.5
C ₂ H ₂ F ₃ Br		3	0.7–1.6
C ₂ H ₃ FBr ₂		3	0.1–1.7
C ₂ H ₃ F ₂ Br		3	0.2–1.1
C ₂ H ₄ FBr		2	0.07–0.1
C ₃ H ₂ FBr ₆		5	0.3–1.5
C ₃ HF ₂ Br ₅		9	0.2–1.9
C ₃ HF ₃ Br ₄		12	0.3–1.8
C ₃ HF ₄ Br ₃		12	0.5–2.2
C ₃ HF ₅ Br ₂		9	0.9–2.0
C ₃ HF ₆ Br		5	0.7–3.3
C ₃ H ₂ FBr ₅		9	0.1–1.9
C ₃ H ₂ F ₂ Br ₄		16	0.2–2.1
C ₃ H ₂ F ₃ Br ₃		18	0.2–5.6
C ₃ H ₂ F ₄ Br ₂		16	0.3–7.5
C ₃ H ₂ F ₅ Br		8	0.9–1.4
C ₃ H ₃ FBr ₄		12	0.08–1.9
C ₃ H ₃ F ₂ Br ₃		18	0.1–3.1
C ₃ H ₃ F ₃ Br ₂		18	0.1–2.5
C ₃ H ₃ F ₄ Br		12	0.3–4.4
C ₃ H ₄ FBr ₃		12	0.03–0.3
C ₃ H ₄ F ₂ Br ₂		16	0.1–1.0
C ₃ H ₄ F ₃ Br		12	0.07–0.8
C ₃ H ₅ FBr ₂		9	0.04–0.4
C ₃ H ₅ F ₂ Br		9	0.07–0.8
C ₃ H ₆ FBr		5	0.02–0.7
Group III			
CH ₂ BrCl	bromochloromethane	1	0.12

* Where a range of ODPs is indicated, the highest value in that range shall be used for the purposes of the Protocol. The ODPs listed as a single value have been determined from calculations based on laboratory measurements. Those listed as a range are based on estimates and are less certain. The range pertains to an isomeric group. The upper value is the estimate of the ODP of the isomer with the highest ODP, and the lower value is the estimate of the ODP of the isomer with the lowest ODP.

** Identifies the most commercially viable substances with ODP values listed against them to be used for the purposes of the Protocol.

Annex E: Controlled substance

Group	Substance	Ozone -Depleting Potential
<i>Group I</i>		
CH ₃ Br	methyl bromide	0.6

ANNEX II

LIST OF DECISIONS TAKEN BY THE PARTIES TO THE MONTREAL PROTOCOL ON CUSTOMS CODES AND LABELLING OF SUBSTANCES THAT DEplete THE OZONE LAYER (See: Ozone Secretariat, 2003a)

A. Decision II/12. Customs Cooperation Council

The Second Meeting of the Parties decided in Dec.II/12

to agree with the recommendations adopted by the Customs Cooperation Council that all member administrations take actions to reflect the adopted subheadings in their national statistical nomenclatures as soon as possible, and to ask the Secretariat to inform the Council that the Parties, having determined that additional subheadings for individual chemicals controlled by the Montreal Protocol would be useful in their efforts to protect the ozone layer, request the assistance of the Council in this regard;

B. Decision IV/9. Data and information reporting

The Fourth Meeting of the Parties decided in Dec.IV/9:

1. To note with satisfaction that all the Parties that reported data met or exceeded their obligations for control measures under Article 2 of the Protocol;
2. To urge all Parties that have not reported their data to the Secretariat to do so as soon as possible;
3. To encourage all Parties to adhere strictly to the reporting requirement under paragraph 3 of Article 7 of the amended Protocol which provides, inter alia, that data shall be provided not later than nine months after the end of the year to which the data relate;
4. To urge all Parties to insert further subdivisions to the recommended Harmonized System subheadings so that imports and exports of each of the substances listed in the annexes of the Protocol as well as each of the mixtures containing these substances can be accurately monitored in order to facilitate reporting of data under Article 7 of the Protocol;

C. Decision ix/28. Revised formats for reporting data under article 7 of the protocol

1. To note with appreciation the work done by the Implementation Committee and the Secretariat on the review and redesign of the formats for reporting data under Article 7 of the Montreal Protocol;
2. To note that the issue of reporting data is an important one and that it is an area to which the Parties may consider giving greater consideration;
3. To approve the revised forms for reporting data prepared according to the reporting mandates of the Protocol. The data forms are set out in annex VII to the report of the Ninth Meeting of the Parties;

4. To recall decision IV/10 and decision IX/17, paragraph 3, and request TEAP, in cooperation with the UNEP Industry and Environment Centre, to prepare a list of mixtures known to contain controlled substances and the percentage proportions of those substances. In particular, the list should provide information on refrigerant mixtures and solvents. It should report this information to the Parties at the seventeenth meeting of the Open-ended Working Group, and annually thereafter;
5. To request UNEP Industry and Environment Centre to draw on its existing reports and its OzonAction Information Clearing-house (OAIC) diskette database, and, in collaboration with the other Implementing Agencies and the Secretariat of the Multilateral Fund, prepare a handbook on data-reporting which will provide information to the Parties to assist all Parties with data-reporting. This information should include techniques for data collection, trade names, as identified by TEAP, customs codes (where these exist), and advice on what sectors of industry may be using these products;
6. To stipulate that, for the purpose of the data-collection only, when reporting data on the consumption of methyl bromide for quarantine and pre-shipment applications, the Parties shall report the amount consumed (i.e., import plus production minus export) and not actual "use";
7. To note that the revised data forms in annex VII to the report of the Ninth Meeting of the Parties, when completed, largely fulfil the reporting requirements under the Montreal Protocol, excluding those for essential-use exemptions;

D. Decision IX/22. Customs Codes

The Ninth Meeting of the Parties decided in Dec. IX/22:

1. To express appreciation to the Multilateral Fund, UNEP and the Stockholm Environmental Institute for the useful information on the problems and possibilities of using customs codes for tracking imports of ozone-depleting substances (ODS) contained in the book *Monitoring Imports of Ozone-Depleting Substances: A Guidebook*;
2. To recommend this book as a guide to Parties seeking more information on this issue;
3. In order to facilitate cooperation between customs authorities and the authorities in charge of ODS control and ensure compliance with licensing requirements, to request the Executive Director of UNEP:
 - (a) To request the World Customs Organization (WCO) to revise its decision of 20 June 1995, recommending one joint national code on all HCFCs under subheading 2903.49, by instead recommending separate national codes under subheading 2903.48 for the most commonly used HCFCs (e.g., HCFC-21; HCFC-22; HCFC-31; HCFC-123; HCFC-124; HCFC-133; HCFC-141b; HCFC-142b; HCFC-225; HCFC-225ca; HCFC-225cb);

- (b) To further ask the World Customs Organization to work with major ODS suppliers to develop and provide the Parties to the Montreal Protocol, through UNEP, with a check-list of relevant customs codes for ODS that are commonly marketed as mixtures, for use by national customs authorities and authorities in charge of control of ODS to ensure compliance with import licensing requirements;
- 4. To request all Parties with ODS production facilities to urge their producing companies to cooperate fully with WCO in the preparation of this check-list.

E. Decision X/18. Customs codes

Recalling decision IX/22 on customs codes and decision IX/28, paragraph 4, on data reporting,

Noting that the existing customs codes set out in the Harmonized System do not allow Parties to easily monitor the import and export of mixtures of substances and that this will be of particular concern for monitoring consumption of HCFCs as a number of the HCFCs will only be consumed as part of refrigerant mixtures being marketed to replace CFCs for some applications,

Noting that many Parties rely on the Harmonized System codes to cross-check and monitor their consumption of ozone-depleting substances and to ensure compliance with their obligations under the Montreal Protocol,

- 1. To request the Ozone Secretariat to continue discussions with the World Customs Organization on:
 - (a) The possibility of revising the Harmonized System to allow the inclusion of appropriate codes for mixtures containing HCFCs, especially those used for refrigeration;
 - (b) The confirmation of the proper classification of methyl bromide that contains 2 per cent chloropicrin as a pure substance and not as a mixture, as suggested in the illustrative list of methyl-bromide mixtures provided earlier to the Parties by the Ozone Secretariat;
- 2. To convene a group of five interested experts to provide advice to the Ozone Secretariat out of session on possible amendments to the Harmonized System;
- 3. To request the Ozone Secretariat to report to the nineteenth meeting of the Open-ended Working Group on progress towards this end;

F. Decision XI/26. Recommendations and clarifications of the World Customs Organization concerning customs codes for ozone-depleting substances and products containing ozone-depleting substances

The Eleventh Meeting of the Parties decided in Dec. XI/26:

Recalling decisions IX/22 and X/18 of the Parties to the Montreal Protocol dealing with customs codes for ozone-depleting substances and products containing ozone-depleting substances,

Noting that the issue of customs codes is of great importance for the prevention of the illegal traffic of ozone-depleting substances and for the purpose of data reporting in accordance with Article 7 of the Montreal Protocol,

1. To note, with appreciation, the actions undertaken so far by the World Customs Organization on the further extension of the Harmonized System customs nomenclature of ozone-depleting substances and products containing ozone-depleting substances;
2. To note the summary of the draft recommendation of the World Customs Organization concerning the insertion in national statistical nomenclatures of Harmonized System subheadings for ozone-depleting substances and products containing ozone-depleting substances and the clarification of the classification under the Harmonized System Convention of methyl bromide containing small amounts of chloropicrin provided in annex II to the report of the nineteenth meeting of the Open-ended Working Group (UNEP/OzL.Pro/WG.1/19/7);
3. To note that the group of experts convened in accordance with decision X/18 will conduct further work on recommendations relating to the Harmonized System codes for mixtures and products containing ozone-depleting substances in collaboration with the World Customs Organization;

G. Decision XII/10. Monitoring of international trade and prevention of illegal trade in ozone-depleting substances, mixtures and products containing ozone-depleting substances

Recognizing the threat of illegal trade in ozone-depleting substances, mixtures and products containing ozone-depleting substances to the global process of ozone layer protection,

Understanding the importance of control of trade in ozone-depleting substances, mixtures and products containing ozone-depleting substances in all Parties in view of the need for global implementation of the provisions of the Montreal Protocol,

Acknowledging that presently the effective control at national borders of trade in ozone-depleting substances, mixtures and products containing ozone-depleting substances is very difficult due to problems in ozone-depleting substances identification, the complexity of relevant customs codes, the lack of an internationally accepted common labelling system and the lack of specially trained customs officers, and the need to approach most of these problems by concerted action at the international level,

Acknowledging that it is important to understand the status of and take into account ongoing work in this area by other international bodies, and take into consideration previous decisions of the Parties, including decisions IX/22, X/18 and XI/26,

1. To request the Ozone Secretariat, in consultation, as appropriate, with the Technology and Economic Assessment Panel, the United Nations Environment Programme, the discussion group on customs codes for ozone-depleting substances and international trade and customs organizations, to examine the options for studying the following issues and to report on these options at the twenty-first meeting of the Open-ended Working Group for consideration by the Parties in 2001:

- (a) Current national legislation on the labelling of ozone-depleting substances, mixtures containing ozone-depleting substances and products containing ozone-depleting substances;
 - (b) The need for, scope of and cost of implementation of a universal labelling and/or classification system for ozone-depleting substances, mixtures containing ozone-depleting substances and products containing ozone-depleting substances, including the feasibility of the introduction of a producer-specific marker, identifier or identification methodology;
 - (c) Methods for sharing experience between Parties on issues related to classification, labelling, compliance and incidents of illegal trade;
 - (d) The differences between products containing ozone-depleting substances and mixtures containing ozone-depleting substances, and the possibility of the creation of a list of categories of products containing ozone-depleting substances with the corresponding Harmonized System/Combined Nomenclature classification;
 - (e) Possible guidance for customs authorities on how to proceed with the illegally traded ozone-depleting substances seized on the border;
2. To express appreciation for the activities of the Division of Technology, Industry and Economics of the United Nations Environment Programme and to encourage further work with regard to providing information on the above to Article 5 Parties and countries with economies in transition, specifically through customs training at the regional and/or national level.

H. Decision XIII/12. Monitoring of international trade and prevention of illegal trade in zone-depleting substances, mixtures and products containing ozone-depleting substances

1. To request the Ozone Secretariat, in consultation, as appropriate, with the Technology and Economic Assessment Panel, the World Customs Organization, the United Nations Environment Programme Division of Technology, Industry and Economics (UNEP/DTIE) and the World Trade Organization to undertake a study and present a report with practical suggestions on the issues contained in decision XII/10 to the Open-ended Working Group at its 22nd meeting, in 2002, for consideration by the Parties in 2002;
2. That in preparing the study, the Secretariat should use decision XII/10 as terms of reference and should study solely those issues discussed in that decision.

I. Decision XIV/7. Monitoring of trade in ozone-depleting substances and preventing illegal trade in ozone-depleting substances

Mindful of Decision XIII/12 requesting the Ozone Secretariat to undertake a study dealing with issues related to monitoring of trade in ODS and preventing illegal trade in ODS listed in Decision XII/10 and present a report with practical suggestions to the Open-ended Working Group at its twenty-second meeting, in 2002, for consideration of the Parties in 2002,

Acknowledging with appreciation the work of the Ozone Secretariat and all organizations and individuals which assisted in the preparation of the report,

Acknowledging with appreciation the proposal from the Ozone Secretariat, based on the work done by the ODS Customs Codes Discussion Group convened under Decision X/18, on national subdivisions to customs codes for classification of mixtures containing ODS, which is presently being processed by the World Customs Organization,

Recalling previous decisions of the Parties dealing with monitoring of trade in ODS, customs codes, ODS import and export licensing systems and prevention of illegal trade in ODS, namely Decisions II/12, VI/19, VIII/20, IX/8, IX/22, X/18 and XI/26,

Understanding the importance of actions aimed at improvement of monitoring of trade in ODS and preventing illegal trade in ODS for timely and smooth phase-out of ODS according to the agreed schedules,

1. To encourage each Party to consider means and continued efforts to monitor international transit trade;
2. To encourage all Parties to introduce economic incentives that do not impair international trade but which are appropriate and consistent with international trade law, to promote the use of ODS substitutes and products (including equipment) containing them or designed for them, and technologies utilizing them; and to consider demand control measures in addressing illegal trade;
3. To urge each Party that has not already done so to introduce in its national customs classification system the separate sub-divisions for the most commonly traded HCFCs and other ODS contained in the World Customs Organization recommendation of 25 June 1999 and request that Parties provide a copy to the Secretariat; and to urge all Parties to take due account of any new recommendations by the World Customs Organization once they are agreed;
4. To provide the following further clarification of the difference between a controlled substance, or a mixture containing a controlled substance, and a product containing a controlled substance contained in Article 1 of the Montreal Protocol and further explained in Decision I/12A:
 - (a) No matter which customs code is allocated to a controlled substance or mixture containing a controlled substance, such substance or mixture, when in a container used for transportation or storage as defined in Decision I/12A, shall be considered to be a “controlled substance” and thus shall be subject to the phase-out schedules agreed upon by the Parties;
 - (b) The clarification contained in subparagraph (a) above concerns, in particular, controlled substances or mixtures containing controlled substances classified under customs codes related to their function and sometimes wrongly considered to be “products”, thus avoiding any controls resulting from the Montreal Protocol phase-out schedules;
5. To encourage all Parties to exchange information and intensify joint efforts to improve means of identification of ODS and prevention of illegal ODS traffic. In particular those Parties concerned should make even greater use of the UNEP regional networks and other networks in order to increase cooperation on illegal trade issues and enforcement activities;

6. To request the Division of Technology, Industry and Economics of the United Nations Environment Programme through the Executive Committee to report to the Sixteenth Meeting of the Parties on the activities of the regional networks with regard to means of combating illegal trade; to request the Executive Committee to consider making an evaluation of customs officers training and licensing systems projects a priority and, if possible, report to the Sixteenth Meeting of the Parties;

7. To invite Parties, in order to facilitate exchange of information, to report to the Ozone Secretariat fully proved cases of illegal trade in ozone-depleting substances. The illegally traded quantities should not be counted against a Party's consumption provided the Party does not place the said quantities on its own market. The Secretariat is requested to collect any information on illegal trade received from the Parties and to disseminate it to all Parties. The Secretariat is also requested to initiate exchanges with countries to explore options for reducing illegal trade;

8. To request the Executive Committee of the Multilateral Fund to continue to provide financial and technical assistance to Article 5 Parties to introduce, develop and apply inspection technologies and equipment in customs to combat illegal ODS traffic and to monitor ODS trade, and to report to the Sixteenth Meeting of the Parties to the Montreal Protocol on activities to date.

J. Decision XIV/8. Consideration of the use of the Globally Harmonized System for the Classification and Labelling of chemicals that deplete the ozone layer

Noting the value that could be attributed to labelling ozone-depleting substances under the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), such as: providing information with respect to identifying the safe handling of these substances in trade, in the workplace, and in consumer products,

Acknowledging the work of the Economic and Social Council and its subcommittee of experts that are responsible for developing the GHS,

Noting, however, that substances that deplete the ozone layer are not currently included in the GHS;

To request the Ozone Secretariat to contact the Subcommittee of Experts of the Economic and Social Council once the GHS has been adopted by Council in order to clarify whether ozone-depleting substances are included in its programme of work and, if they are not included:

- (a) To evaluate the possibilities for and feasibility of including ozone-depleting substances on its work programme; and
- (b) To report to the twenty-third meeting of the Open-ended Working Group of the Parties.

ANNEX III

SEPARATE IDENTIFICATION OF MONTREAL PROTOCOL PURE OZONE-DEPLETING SUBSTANCES (ODS) UNDER THE HARMONIZED SYSTEM (as at March 2003)

ODS Group	Substance	Formula	HS Code**	HS Product Description	Comments
			29-03	Halogenated derivatives of hydrocarbons	HS International Classification
A/I and A/II	Chlorofluorocarbons (CFCs) and Halons		-2903.40	Halogenated derivatives of acyclic hydrocarbons containing 2 or more different halogens	HS Amendment 26.6.90*
A/I	CFC-11	CFC1 ₃	--2903.41	Trichlorofluoromethane	HS Amendment 26.6.90*
	CFC-12	CF ₂ Cl ₂	--2903.42	Dichlorodifluoromethane	HS Amendment 26.6.90*
	CFC-113	C ₂ F ₃ Cl ₃	--2903.43	Trichlorotrifluoroethanes	HS Amendment 26.6.90*
	CFCs 114 and 115	C ₂ F ₄ Cl ₂ and C ₂ F ₅ Cl	--2903.44	Dichlorotetrafluoroethanes and Chloropentafluoroethane	HS Amendment 26.6.90*
A/II	Halons 1211, 1301 and 2402	CF ₂ BrCl, CF ₃ Br and C ₂ F ₄ Br ₂	--2903.46	Bromochlorodifluoromethane, Bromotrifluoromethane and Dibromotetrafluoroethanes	HS Amendment 26.6.90*

*Entered into force 1.1.96

**Codes that contain one or two dashes are international codes, and are directly applicable. When a code contains three dashes, the national authorities may create their own codes under the cited international code, for each one of the chemicals or group of chemicals listed under the "Substance" and "Formula" column.

ODS Group	Substance	Formula	HS Code**	HS Product Description	Comments
B/I	Other Fully Halogenated CFCs		--2903.45	Other derivatives perhalogenated only with fluorine and chlorine	HS Amendment 26.6.90*
	CFC-13	CF ₃ Cl	---2903.45	Chlorotrifluoromethane	HS Recommendation 15.7.99
	CFC-111	C ₂ FC1 ₅	---2903.45	Pentachlorofluoroethane	HS Recommendation 15.7.99
	CFC-112	C ₂ F ₂ C1 ₄	---2903.45	Tetrachlorodifluoroethanes	HS Recommendation 15.7.99
	CFC-211	C ₃ FC1 ₇	---2903.45	Heptachlorofluoropropanes	HS Recommendation 15.7.99
	CFC-212	C ₃ F ₂ C1 ₆	---2903.45	Hexachlorodifluoropropanes	HS Recommendation 15.7.99
	CFC-213	C ₃ F ₃ C1 ₅	---2903.45	Pentachlorotrifluoropropanes	HS Recommendation 15.7.99
	CFC-214	C ₃ F ₄ C1 ₄	---2903.45	Tetrachlorotetrafluoropropanes	HS Recommendation 15.7.99
	CFC-215	C ₃ F ₅ C1 ₃	---2903.45	Trichloropentafluoropropanes	HS Recommendation 15.7.99
	CFC-216	C ₃ F ₆ C1 ₂	---2903.45	Dichlorohexafluoropropanes	HS Recommendation 15.7.99
	CFC-217	C ₃ F ₇ Cl	---2903.45	Chloroheptafluoropropanes	HS Recommendation 15.7.99
B/II			-2903.10	Saturated chorinated derivatives of acyclic hydrocarbons	HS International Classification
	Carbon tetrachloride	CCl ₄	--2903.14	Carbon tetrachloride	HS International Classification
B/III			--2903.19	Other	HS International Classification
	Methly chloroform	C ₂ H ₃ C1 ₃	---2903.19	1,1,1-Trichloroethane (Methyl chloroform)	HS Recommendation 15.7.99

*Entered in force 1.1.96

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ODS Group	Substance	Formula	HS Code**	HS Product Description	Comments
C/I and C/II	HCFCs and HBFCs		--2903.49	Other	HS Amendment 26.6.90*
C/I	Hydrochlorofluoro-Carbon (HCFCs)		---2903.49	Other derivatives of methane, ethane or propane, halogenated Only with fluorine and chlorine	HS Recommendation 15.7.99
	HCFC-22	CHF ₂ Cl	---2903.49	Chlorodifluoromethane	HS Recommendation 15.7.99
	HCFC-123	CHCl ₂ F ₃	---2903.49	Dichlorotrifluoroethanes	HS Recommendation 15.7.99
	HCFC-124	CHFCICF ₃	---2903.49	Chlorotetrafluoroethanes	HS Recommendation 15.7.99
	HCFCs 141 and 141b	CH ₃ CFCI ₂	---2903.49	Dichlorofluoroethanes	HS Recommendation 15.7.99
	HCFCs 142 and 142b	CH ₃ CF ₂ Cl	---2903.49	Chlorodifluoroethanes	HS Recommendation 15.7.99
	HCFCs including 225, 225ca and 225cb	C ₃ HF ₅ Cl ₂ , CF ₃ CF ₂ CHCl ₂ , CF ₂ ClF ₂ CHClF	---2903.49	Dichloropentafluoropropanes	HS Recommendation 15.7.99
	HCFCs 21,31 and 133	CHFCI ₂ , CH ₂ FCl,CHFCI ₂ and C ₂ H ₂ F ₃ Cl	---2903.49	Other derivatives of methane, ethane or propane halogenated only with fluorine and chlorine	HS Recommendation 15.7.99
C/II	Hydrobromofluoro-carbons (HBFCs)		---2903.49	Derivatives of methane, ethane or propane halogenated only with fluorine and bromine	HS Recommendation 15.7.99
C/III	Bromochloromethane	CH ₃ BrCl	---2903.49	Derivatives of methane, ethane or propane halogenated only with fluorine and bromine	HS Recommendation 15.7.99

*Entered in force 1.1.96

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ODS Group	Substance	Formula	HS Code**	HS Product Description	Comments
E/I			-2903.30	Fluorinated, brominated or iodinated derivatives of acyclic hydrocarbons	HS International Classification
	Methyl Bromide	CH ₃ Br	---2903.30	Bromomethane (methyl bromide)	HS Recommendation 15.7.99

*Entered into force 1.1.96

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