

ODS and Refrigerant Management Regulation 2025 Procurement Training



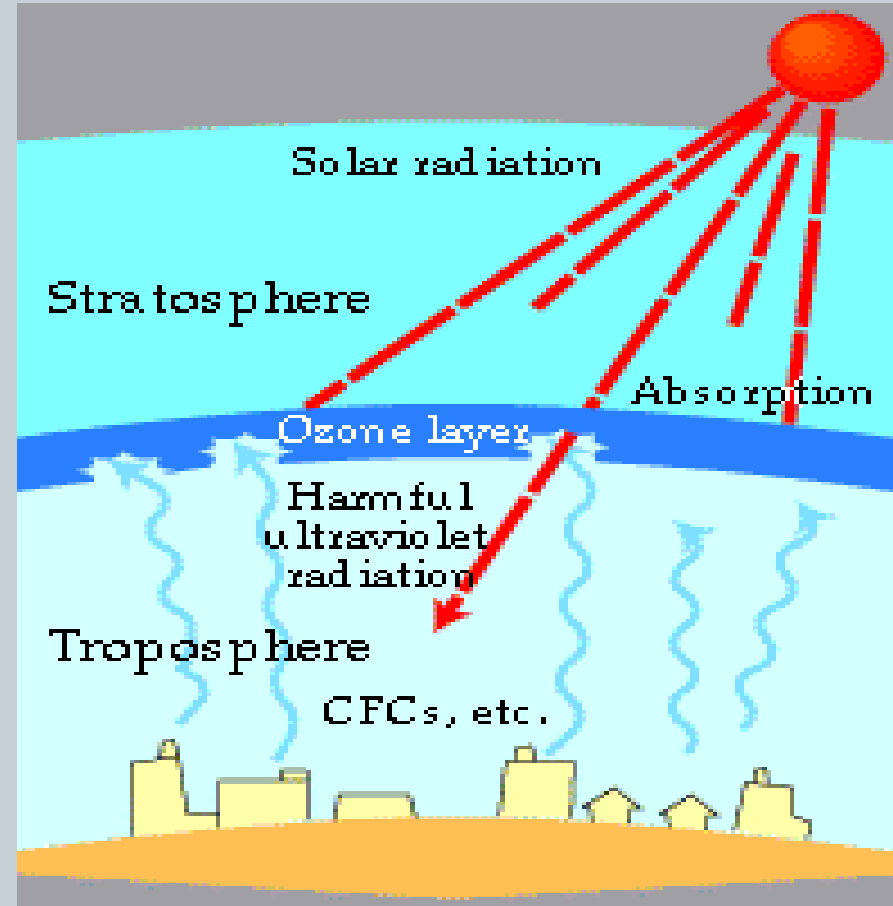
- 1. MONTREAL PROTOCOL & KIRIBATI**
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18 – 20 FEBRUARY 2025

1. Montreal Protocol & Kiribati

- **Montreal Protocol on substances that deplete the ozone layer** is the international agreement signed on the **16th September** 1987 in Montreal Canada;
- **Main objective:** to phase-out ODS by controlling the production and consumption of ODS and promote the use of their alternatives.
- **The Montreal Protocol** is the most successful international agreement on Earth.
- **Kiribati ratified the Montreal protocol 7th Jan 1993**, and as a party to the protocol it is required to formulate appropriate control measures to phase-out ODS and phase-down alternatives.

- What is Ozone Layer?



2. Brief background - regulation



- Current ODS regulation was approved and endorsed by Cabinet on the 13th December 2017
- Establish under section 86 of the Environment Act (as amended 2007)
- Objective: To control and regulate the import/export and handle/storage/use/sell of ODS or Controlled substances (of the Montreal Protocol) at the national level.
- The existing regulation is undergoing the national amendment and review procedure to strengthen its regulations.
- New ODS and Refrigerant Management Regulation 2025 has been finalized, and it is with OAG for clearance.
- Established under Section 115 (2) (b) of the Environment Act 2021

3. Regulations related with appliances under ODS and Refrigerant Management Regulation 2025

- 7. Prohibitions on Production and Import of Products and Equipment Relying on Controlled Substances**
- (1) The import of products and equipment relying on any controlled substances set out in Schedule I and Schedule II is prohibited.
 - (2) The import of products and equipment relying on HCFCs specified in Schedule II is prohibited unless an import permit has been issued under this Regulation.
 - (3) The import of products and equipment relying on controlled substances specified in Schedule III (HFCs) is prohibited unless an import permit has been issued under this Regulation.
 - (4) Further control measures on the import of products and equipment relying on any controlled substance specified in Schedule III (HFCs) may be introduced by Ministerial order based on the recommendation of the Department on controlling the annual consumption of HFCs in the country.

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14. Permit to import products and equipment relying on HFCs (Schedule III)

- (1) An application for a permit to import any product and equipment relying on a controlled substance in Schedule III must be made using the prescribed form in Schedule VI.
- (2) A permit to import products and equipment relying on controlled substances specified in Schedule III (HFCs) issued under this Regulation is granted on a per-shipment basis and shall be valid until the shipment is completed.
- (3) A permit holder must not import products or equipment relying on controlled substances in excess of the amount permitted by the permit.
- (4) A permit holder who breaches any of the conditions set out in the permit commits an offence.

4. List of products containing banned and controlled substances (Schedule I and II)

Schedule IV

A list of products containing banned and controlled substances specified in Schedule I and II
(Regulation 12)

1. Automobile and truck air conditioning units (whether incorporated in vehicles or not)
2. Domestic and commercial refrigerants and air conditioning/ heat pump equipment.
 - a) Refrigerators
 - b) Freezers
 - c) Dehumidifiers
 - d) Water coolers
 - e) Ice machines
 - f) Air conditioning and heat pump units
 - g) Chiller
3. Aerosols products, except medical aerosols
4. Portable fire extinguishers
5. Insulation boards, panels and pipe covers
6. Pre-polymers.



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CAUTION

- REFRIGERANT UNDER HIGH PRESSURE.
- AIR CONDITIONING SYSTEM TO BE SERVICED BY QUALIFIED PERSONNEL.
- IMPROPER SERVICE METHODS MAY CAUSE PERSONAL INJURY.
- SEE SERVICE MANUAL FOR DETAILS.

SAE J-639 compliant	TYPE(PART NO)	AMOUNT
REFRIGERANT	R-134a	475 ~ 525g 1.04 ~ 1.15lbs
COMPRESSOR LUBRICANT	PAG(FD46XG)	90 ~ 110g

Hyundai Motor America

5. Banned and Controlled Substances (Schedule I and II)

Name/Group	Chemical name	Formula	ASHRAE # for refrigerants only	ASHRAE ¹ safety group	CAS ² #	UN ³ #	HS code since 1 Jan 2012	HS code until 31 Dec 2011
Annex A, Group I (CFCs)								
CFC-11	Trichlorofluoromethane	CFCl ₃	R-11	A1	75-69-4	1017	2903.77	2903.41
CFC-12	Dichlorodifluoromethane	CF ₂ Cl ₂	R-12	A1	75-71-8	1028	2903.77	2903.42
CFC-113	Trichlorotrifluoroethanes	C ₂ F ₃ Cl ₃	R-113	A1	76-13-1		2903.77	2903.43
CFC-114	Dichlorotetrafluoroethanes	C ₂ F ₄ Cl ₂	R-114	A1	76-14-2	1958	2903.77	2903.44
CFC-115	Chloropentafluoroethane	CClF ₂ CF ₃	R-115	A1	76-15-3	1020	2903.77	2903.44
Annex A, Group II (Halon)								
Halon-1211	Bromochlorodifluoromethane	CF ₂ BrCl	R-12B1		353-59-3	1974	2903.76	2903.46
Halon-1301	Bromotrifluoromethane	CF ₃ Br	R-13B1		75-63-8	1009	2903.76	2903.46
Halon-2402	Dibromotetrafluoroethanes	C ₂ F ₄ Br ₂	R-114B2		124-73-2		2903.76	2903.46
Annex B, Group I (Other CFCs)								
CFC-13	Chlorotrifluoromethane	CF ₃ Cl	R-13	A1	75-72-9		2903.77	2903.45
Annex B, Group II								
Tetrachloromethane or carbon tetrachloride		CCl ₄		B1	56-23-5	1864	2903.14	2903.14
Annex B, Group III								
1,1,1-trichloroethane or methyl chloroform		C ₂ H ₃ Cl ₃	R-140a		71-55-6	2831	2903.19	2903.19
Annex C, Group I (HCFCs)								
HCFC-22	Chlorodifluoromethane	CHF ₂ Cl	R-22	A1	75-45-6	1018	2903.71	2903.49
HCFC-123	Dichlorotrifluoroethanes	C ₂ HF ₃ Cl ₂	R-123	B1	306-83-2		2903.72	2903.49
HCFC-124	Chlorotetrafluoroethanes	C ₂ HF ₄ Cl	R-124	A1	2837-89-0		2903.79	2903.49
HCFC-141	Dichlorodifluoroethanes	C ₂ H ₃ FCl ₂	R-141		1717-00-6		2903.73	2903.49
HCFC-141b	1,1-dichloro-1-fluoroethane	CH ₃ CFCl ₂	R-141b	A2	1717-00-6		2903.73	2903.49
HCFC-142	Chlorodifluoroethanes	C ₂ H ₃ F ₂ Cl	R-142		75-68-3		2903.74	2903.49
HCFC-142b	1-chloro-1,1-difluoroethane	CH ₃ CF ₂ Cl	R-142b	A2	75-68-3		2903.74	2903.49
HCFC-225	Dichloropentafluoropropanes	C ₃ HF ₅ Cl ₂	R-225		127564-92-5		2903.75	2903.49
Annex C, Group II (HBFCs)								
HBFC-22B1	Bromodifluoromethane	CHF ₂ Br			1511-62-2		2903.79	2903.49
Annex C, Group III								
Bromochloromethane		CH ₂ BrCl			74-97-5		2903.79	2903.49
Annex E, Group I								
Methyl bromide (or Bromomethane)		CH ₃ Br			74-83-9	1062	2903.39	2903.39
The most popular ODS-containing mixtures (Refrigerants)								
R-500 ⁵	CFC-12 / HFC-152a		R-500	A1	**		3824.71	3824.71
R-502 ⁵	HCFC-22 / CFC-115		R-502	A1	**	1973	3824.71	3824.71
R-401A (MP-39)	HCFC-22/HFC-152a/HCFC-124		R-401A	A1	**		3824.74	3824.74
R-406A	R-22/R-600a/R-142b (55/04/41)		R-406	A2	**		3824.74	3824.74
R-408A (FX 10)	HCFC-22/HFC-143a/HFC-125		R-408A	A1	**		3824.74	3824.74
R-409A (FX 56)	HCFC-22 / HCFC-124/HCFC-142b		R-409A	A1	**		3824.74	3824.74
R-415B	R-22/R-152a (25/75)		R-415B	A2	**		3824.74	3824.74
R-418A	HC-290/HCFC-22/HFC-152a		R-418A	A2	**		3824.74	3824.74

Selected Non-Ozone Depleting Substances⁴

Name/Group	Chemical name	Formula	ASHRAE # for refrigerants only	ASHRAE ¹ safety group	CAS ² #	UN ³ #	HS code
Hydrofluorocarbons (HFCs)							
HFC-134a	1,1,1,2-Tetrafluoroethane	CF ₃ CH ₂ F	R-134a	A1	811-97-2	3159	2903.39
HFC-152a	1,1-Difluoroethane	CHF ₂ CH ₃	R-152a	A2	75-37-6		2903.39
HFC-125	Pentafluoroethane	CF ₃ CHF ₂	R-125	A1	354-33-6		2903.39
HFC-143a	1,1,1-trifluoroethane	CF ₃ CH ₃	R-143a	A2L	420-46-2		2903.39
HFC-32	Difluoromethane	CH ₂ F ₂	R-32	A2L	75-10-5		2903.39
HFC-23	Trifluoromethane	CHF ₃	R-23	A1	75-46-7		2903.39
HFC-245fa	1,1,1,3,3-Pentafluoropropane	CF ₃ CH ₂ CHF ₂	R-245fa	B1	460-73-1		2903.39
HFC-1,2,3,4yf	2,3,3,3-Tetrafluoropropene	CH ₂ =CFCF ₃	R-1,2,3,4yf	A2L	754-12-1		2903.39

Name/Group	Chemical name	Formula	ASHRAE # for refrigerants only	ASHRAE ¹ safety group	CAS ² #	UN ³ #	HS code
Hydrofluorocarbons blends (HFCs mixtures)							
R-404A	R143a/125/134a		R-404A	A1	**		3824.78
R-507A	R143a/125		R-507A	A1	**		3824.78
R-407A	R32/125/134a		R-407A	A1	**		3824.78
R-407B	R32/125/134a		R-407B	A1	**		3824.78
R-407C	R32/125/134a		R-407C	A1	**		3824.78
R-410A	R32/125		R-410A	A1	**		3824.78
R-508A	R23/116		R-508A	A1	**		3824.78
R-508B	R23/116		R-508B	A1	**		3824.78
Halogen-free Refrigerants							
R-717	Ammonia	NH ₃	R-717	B2L	7664-41-7	1005	2814.10
R-744	Carbon dioxide	CO ₂	R-744	A1	124-38-9		2811.21
HC-600	Butane	CH ₃ CH ₂ CH ₂ CH ₃	R-600	A3	106-97-8		2901.10*
HC-600a	Iso-Butane	C ₄ H ₁₀	R-600a	A3	75-28-5	1969	2901.10*
HC-290	Propane	C ₃ H ₈	R-290	A3	74-98-6	1978	2711.12

6. Obligation of owners of RAC equipment under the ODS and Refrigerant Management Regulation 2025

PART XI

Leakages and emissions of controlled substances, and records maintenance

24. Leakages and emissions of controlled substances

- (1) Owners of Refrigeration and Air Conditioning (RAC) equipment, and RAC servicing technicians and workshops shall take all precautionary measures that are practicable and technically and economically feasible to prevent and minimize any leakages and emissions of controlled substances.
- (2) Owners of RAC equipment that contain controlled substances shall ensure that the stationary equipment or systems with a fluid charge of 30 kg or more of controlled substances are checked by personnel holding a handling licence for leakage at least once every 6 months, and that any detected leakage is repaired as soon as possible and in any event within 5 working days.
- (3) The equipment or system shall be checked for leakage within 1 month after a leak has been repaired to ensure that the repair has been effective.

Continue



25. Records and maintenance

RAC servicing technicians and workshops shall maintain **records** on the quantity and type of controlled substances added and the quantity recovered during maintenance, servicing, and final disposal of the equipment or system.

- (1) They shall also maintain records of other relevant information including the identification of the technician who performed the maintenance or servicing, as well as the dates and results of the leakage checks carried out.
- (2) These records must be kept for a period of at least 5 years after the records are made and made available on request to the Unit.
- (4) Owners of RAC equipment and RAC servicing technicians and workshops referred to in this Part shall ensure that **the equipment is checked and repaired by trained personnel**.
- (5) The **Ministry responsible for Employment**, in consultation with the Unit, **shall define the minimum qualification requirements for the personnel** carrying out activities referred to in the above paragraph and determine the modalities for the training of those competencies.
- (6) The Unit may set up an electronic registry of trained technicians and/or workshops that employ trained technicians, including competence level, and make it available to the public.

7. Conclusion



- From this presentation, participants should now:
 - Obtain a brief information on the Montreal Protocol, Ozone layer and depletion, and ODS and their alternatives.
 - Gain clear understanding on the obligation of Kiribati as a party to the Montreal Protocol.
 - Have a knowledge on existing regulations in regards of the RAC equipment/ products that rely on controlled substances.
 - Have a full understanding on the obligation of the Owner of the RAC equipment specified under the new regulation.



Thank you

Any Questions??