HALON RECYCLING CORPORATION

The importance of continuing to carefully manage the world's existing halon resources

Halons are highly effective fire and explosion suppression agents that have been used for special hazard fire protection since the 1960s. Halons are also potent ozone-depleting substances whose production for fire protection uses was phased out worldwide in 2010 under the Montreal Protocol.

Despite the phase out of production, halons continue to be needed in a number of important applications where alternatives are not yet available including military, oil and gas, and commercial aviation. A recent Montreal Protocol report estimates that halons will be needed in commercial aviation for another 40 years and that the supply of recycled halons could run out before then.

For these reasons it is critical that the world's existing halon resources be carefully managed. Every kilogram of halon that is prevented from being unnecessarily emitted, contaminated or destroyed is a kilogram of halon that will be available for servicing halon systems in the future. Therefore, the dissemination of accurate information about halon management is critical for protecting the environment while protecting valuable assets that cannot as yet be protected by other means.

Halons

Halons are low-toxicity, chemically stable compounds that have been used for fire and explosion protection for more than 50 years. Halons have proven to be extremely effective fire suppressants that are clean (leave no residue) and, in the case of Halon 1301, can be used safely to protect occupied spaces.

Below is a list of the different types of halons and applications where they might have been used.

Halon 1301 (bromotrifluoromethane) is a gaseous agent used mainly in total flooding systems. Historically, the largest single user of Halon 1301 has been the electronics industry. The protection of vital electronics facilities such as computer and telecommunications rooms was estimated to account for 65% of Halon 1301 use. Halon 1301 is also used extensively for military applications, ships, oil production, electric power generation, and on all commercial passenger aircraft.

Halon 1211 (bromochlorodifluoromethane) is a liquid streaming agent used mainly in portable fire extinguishers. Halon 1211 extinguishers are used for military applications, in certain industrial and electronic facilities, at airports, and on commercial passenger aircraft.

Halon 2402 (dibromotetrafluoroethane) is a gaseous agent used mostly in total flooding systems manufactured in Russia. Halon 2402 is used for military applications, ships, oil production, electric power generation, and on commercial passenger aircraft.

Halon Recycling and Banking

The recovery and recycling of the existing halons is key to minimizing unnecessary emissions, and provides an environmentally sound pathway for halons to be directed to important uses until environmentally acceptable alternatives are developed.

A significant percentage of the world's halon needs are supplied by a small number of halon recyclers who search the global community in an effort to identify "used" halon. Halon recyclers are responsible for transporting the decommissioned halon systems to their factories; sampling and testing the halon for any impurities; consolidating the halon into larger storage cylinders; recycling the halon through equipment designed to remove impurities and returning the halon to the appropriate specification; re-sampling the finished product to determine if it meets specification; and, finally, shipping the recycled halon to the customer. The process of testing and certifying halon quality is of great importance to halon users, and all halon users are urged to make certain that the substance they are purchasing meets the specification required for their use.

Used halons become available in most cases when a fire suppression system or extinguisher is decommissioned because the hazard it is protecting, such as a computer room, telecommunications facility, ship, or aircraft, is no longer active. Therefore the supply of recycled halons is mostly based on the rate at which halon systems and extinguishers are decommissioned from service.

The concept of "halon banking" is now a commonly used term. There is now general acceptance to a definition that a "halon bank" represents the total available amount of halon that is presently located in existing equipment, being the installed base, in addition to the halon already reclaimed from decommissioning activities and held in storage pending other future disposal options. A halon bank therefore is not necessarily a physical bank, but can be a managed inventory.

Eliminating Barriers to International Trade in Recycled Halons

Decision IV/26: International Recycled Halon Bank Management outlined the goals of the Montreal Protocol to encourage recovery, recycling and reclamation of halons in order to meet the needs of all countries. It set the stage for the development of technical standards and halon bank management strategies, and called for investigation of possible legal and institutional barriers to the international trade in recycled halons. The importance of the unencumbered movement internationally of recycled halons in order to avoid regional unbalances in supply was reiterated recently in Decision XXVI/7: Availability of Halons. It requests Parties to reassess national import/export restrictions on halons and asks ozone officers to liaise with their civil aviation authorities regarding the recovery of halons to meet aviation needs.

Recycled Halons Are Not Hazardous Waste

Concerning transboundary movements of Ozone Depleting Substance (ODS) wastes, under the Basel Convention, chlorofluorocarbons and halons are not contained in Annex VIII (list of hazardous wastes) and there are no technical guidelines for the environmentally sound management of wastes consisting of or containing ODS. As a consequence, the Parties to the Montreal Protocol decided in Decision VII/31: Status of recycled CFCs and Halons under the Basel Convention, that the international transfers of controlled substances of the Montreal Protocol, which are recovered but not purified to usable purity specifications prescribed by appropriate international and/or national organizations, including International Standards Organization (ISO), should only occur if the recipient country has recycling facilities that can process the received controlled substances to these specifications or has destruction facilities incorporating technologies approved for that purpose.

Halons of All Types are *Hazardous Materials,* NOT *Hazardous Wastes*

Hazardous *materials* are materials used in various industrial processes that are usually purchased from suppliers. They must be handled in a particular way for life safety. Hazardous *wastes* are usually industrial byproducts that must be, by law, *disposed of* in a clearly defined manner. Halons, since they are valuable for critical uses where alternatives are not available, and safe if handled in a safe manner, are not *hazardous wastes* but rather *hazardous materials.* They simply require that well-established, proven methods for handling and transportation be employed. Confusion on this point in some countries has led to environmental harm from excess emissions of halons and needless destruction of halons.

Halon Recycling Corporation

The Halon Recycling Corporation (HRC) is a voluntary, non-profit trade association formed by concerned halon users and the fire protection industry to support the goals of the Montreal Protocol. HRC acts as a facilitating organization for the recycling of halons and is the main liaison for the fire protection industry with the US government on halon-related issues. HRC also represents the interests of halon recyclers and users on environmental and regulatory issues. HRC has been involved in the management of existing halon resources for almost 25 years through its work with the US EPA, UNEP, HTOC, FAA, ICAO and others.

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