



## ILLEGAL SUPPLIES OF OZONE-DEPLETING CHEMICALS

<b>Background:</b>	<p>The <i>Montreal Protocol on Substances that Deplete the Ozone Layer</i> and the U.S. Clean Air Act require production of most major ozone-depleting substances to cease by December 31, 1995. In response to the decrease in availability of chlorofluorocarbons (CFCs) and halon, the increase in cost resulting from limited supply and the excise tax, and the cost to transition into alternative chemicals or processes, a black market for CFCs and halon has developed. The U.S. Customs Service has stated that this black market rivals only illegal drugs in size and scope. The impact of this illegal transport of CFCs (mostly refrigerants) on Department of Energy (DOE) facility operators is unknown; however two potential problems exist:</p> <ul style="list-style-type: none"><li>· the potential that DOE or DOE contractors may inadvertently purchase illegal refrigerants (according to recent reports, the CFCs are generally sold directly to users), and</li><li>· the questionable purity of these chemicals may be harmful to DOE equipment.</li></ul>
<b>References:</b>	<p>The <i>Montreal Protocol on Substances that Deplete the Ozone Layer</i> U.S. Clean Air Act, Title VI (Stratospheric Ozone Protection)</p>

### What ozone-depleting substances are affected and what are their uses?

The December 31, 1995, production cessation for ozone-depleting chemicals applies to all CFCs and halons. CFCs and halons are used primarily in three main areas:

- refrigeration - including industrial cooling and chilling applications and space conditioning for buildings and automobiles;
- solvent cleaning - including degreasing, precision cleaning and specialized applications; and
- fire suppression.

Alternatives for most uses of CFCs and halons are currently available. However, the requirements to transition to these alternative chemicals or processes can be costly. This is especially true for automotive air conditioning where the cost to replace an existing system with one using an alternative chemical can be as high as \$1000 per car.

### What is the nature of the black market for illegal ozone-depleting chemicals?

Both the Clean Air Act and the Montreal Protocol require production of ozone-depleting substances to cease. To encourage users of these substances to transition to less damaging alternative substances, the United States government implemented an excise tax on the sale of unused ozone-depleting chemicals, and on the import of unused or recycled/reused chemicals. This tax, which has steadily increased since its implementation in 1990, is

currently over \$5 per pound of CFC or halon. In response to the decrease in availability of CFCs and halon, the increase in cost resulting from limited supply and the excise tax, and the cost to transition into alternative chemicals or processes, a black market for illegal CFCs and halon has developed. The U.S. Customs Service has stated that the size and scope of this black market rivals that of the illegal drug market. In a recent case in Miami, a woman was indicted for illegally importing 3,000 tons of a controlled ozone-depleting substance into the United States. The estimated street value of the commodity was \$53 million.

There are two primary causes of the black market for CFCs and halons. One is the slow transition by users of these chemicals into alternative chemicals and processes. This is true in nearly every use sector, but is especially prevalent in the automotive air conditioning market. Another reason for the black market is the lack of enforcement and limited compliance internationally on ceasing production of ozone-depleting chemicals. Continued or increased production of these chemicals by other countries has created a cheap supply of chemical for illegal transport to the United States.

### How are the illegal chemicals being transported and sold to the eventual end user?

Contrary to expectations, black market CFCs and halons are not being sold by fly-by-night operators pulling a truck

up to a facility at night. Rather, much of the illegal CFC and halon inventory is sold through normal distribution systems. According to the Internal Revenue Service (IRS), most of the chemicals are brokered through a telemarketer who sells to a middle man who eventually sells to the final distributor. With the exception of the smuggler, this process is similar to the normal process for CFC and halon sales where the final purchaser buys the chemical from a distributor who has purchased it from a marketer for the manufacturer. As a result, it is possible that DOE facilities could potentially purchase chemical which has been illegally transported into the U.S. without knowing that they had done so.

The illegal chemicals are being brought into the U.S. on container ships. Often the manifests for these ships correctly identify the cargo as containing a certain amount of ozone-depleting chemicals. However, these manifests usually indicate that this cargo will not remain in the U.S., but will be continuing on to another country, generally in South America<sup>1</sup>. Before leaving port, some quantity of the chemical is diverted into the U.S. market. The ship leaves port with less cargo than is being claimed, and the ozone-depleting substances enter the U.S. market without having been taxed. U.S. Customs officials have been concentrating their efforts in Miami; however, illicit chemicals have also been confiscated in New Jersey and Los Angeles.

### **How can DOE facilities avoid unwittingly purchasing illegal ozone-depleting chemicals?**

Both the U.S. Customs Service and the IRS suggest that the best way of avoiding this situation is to closely examine the cost of the chemical being purchased. Many of the smugglers are looking for a quick deal and therefore sell the product significantly below the market rate. They are able to do this, and still make a profit, because they have not paid the \$5/pound excise tax for the product. The IRS suggests that, if it sounds like too good a deal, it probably is. Final consumers need to evaluate whether a price that is below the market rate is a legitimate discount, or a contribution to illegal importation.

Another recommendation is to deal with well known, legitimate suppliers, or to go directly to a manufacturer. Although neither the Customs Service and the IRS would discuss whether legitimate suppliers have been involved in

smuggling activities, they did indicate that most of the smuggling has been undertaken by smaller operations that have sprung up to service a legitimate market in recycled chemicals. Once again, price is the best indicator, followed by a history of association with the organization selling the product.

### **What type of liability would DOE and DOE contractors face if they accidentally purchased illegal chemicals?**

The IRS is tasked with collecting the unpaid taxes for the smuggled product. As of December 1995, the IRS had assessed \$7 million in taxes and penalties for ozone-depleting substance sales. The U.S. Customs Service is responsible for the indictment of smugglers and for bringing legal actions to assess penalties and jail terms for subversion of U.S. trade regulations. It is unlikely that DOE facility operators who inadvertently purchase illegal chemicals would be included in any criminal case. The taxes are the burden of the manufacturer or importer, and therefore would not likely be applied to DOE facility operators. However, if DOE facility operators become the owner of illegal chemicals, those chemicals are subject to confiscation without reimbursement. Thus, inadvertent purchase of illegal chemicals by DOE facility operators could result in substantial financial losses.

### **Are recycled ozone-depleting substances safe?**

One result of terminating production of ozone-depleting chemicals is the increased market for recycled CFCs and halons. Although recycled CFCs and halons that originate in the U.S. are not subject to the excise tax, recycled substances imported from other countries are. Much of the illegal chemical that is being smuggled into the U.S. is currently being passed off as recycled material. Some of these chemicals are actual recycled chemicals, and some are newly manufactured CFCs that have been

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<sup>1</sup> Certain developing countries are allowed to continue using and producing CFCs and halons after the December 31, 1995 phaseout date. Transfer of ozone-depleting substances to these countries is not only legal but encouraged by the *Montreal Protocol*.

"contaminated" to appear recycled<sup>2</sup>. It is possible that some new chemicals are being designated "recycled" in order to be allowed to be transported from the country of origin. In many cases, the impurities being added are potentially harmful to equipment and may present a safety hazard as well.

The Environmental Protection Agency (EPA) is concerned that the recycled CFCs being imported could contain impurities that might cause equipment damage. Often, facilities and firms that purchase recycled chemicals do not themselves maintain or have access to equipment to test the purity of the product. It is important that DOE facilities ensure that the retailer from which they purchase their recycled product has access to test equipment and regularly tests the products that are sold.

**How are the IRS and Customs planning to dispose of confiscated illegal CFCs and halons?**

At the present time, as a cost saving measure, the Customs Service is storing confiscated CFCs at the Defense Logistics Agency's (DLA) CFC and Halon Reserve. The U.S. Department of Justice, the Customs Service and the EPA are currently investigating the legal and public relations implications of selling confiscated CFCs to the DLA Reserve for use by its member agencies. They are also evaluating destruction of confiscated chemicals.

Sale of confiscated ozone-depleting substances to DoD could help offset the costs of the Justice Department and Customs Service investigations. However, there are concerns that sale of the material may slow transition to alternative chemicals and processes, or have a deleterious effect on the domestic market for recycled substances. Although the second option of destroying confiscated chemicals by incineration appears popular with environmental groups and elements in the domestic ozone-depleting substance market, the estimated costs for such destruction may be prohibitive. Also, the United

States currently has only a limited capacity for destruction of ODSs.

**What is the potential impact of these illegal substances on the market for alternative chemicals?**

The illegal importation of ozone-depleting chemicals has significant consequences for the alternative chemical market. The supply of inexpensive, illegal chemicals reduces the market for alternatives. This, in turn, decreases investment in development and marketing of alternatives, which keeps the supply of these alternatives low and the price high relative to CFCs and halon. The result is that those users that have made the transition to alternative chemicals and processes are not realizing the return on investment that they anticipated. This serves as a disincentive to other users to phase out their use.

Most of the illegal chemical that has been intercepted has been CFC-12. This has been attributed to the large market for CFCs to service the automotive air conditioning industry. CFC-12 is also used in many cooling applications at DOE facilities. By December 1995, Customs had seized approximately 1 million pounds of CFC-12. A small amount of CFC-113 also has recently been intercepted. The Customs Service and the IRS estimate that they are intercepting only 5% of the total amount of illegal CFCs and halons entering the U.S. market. They anticipate that the black market situation will continue for at least the next five years.

Questions of policy or questions requiring policy decisions will not be addressed in EH-412 Information Briefs unless that policy has been established through appropriate documentation. Please direct any questions concerning the subject matter covered in this information brief to Mr. Ted Koss, Air, Water and Radiation Division, EH-412, (202) 586-7964. Email: THEODORE.KOSS@hq.doe.gov

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<sup>2</sup> The recycling process often leaves trace quantities of oil or other contaminant in the product. In the U.S., strict standards are imposed on the allowable level of these trace contaminants to avoid causing damage to equipment or personnel. In addition, recycled chemicals that are transferred from one owner to another are required to meet the purity standards established by the Air Conditioning and Refrigeration Institute's standard, ARI 700 .