

**Memorandum**

To : Susan Bertken  
Senior Staff Attorney  
Office of Legal Counsel

Date: April 8, 1993

From : Office of Scientific Affairs  
(916) 324-4943



Subject: Airco Special Gases

Your memorandum to Ron Pilorin dated March 5, 1993, was referred to me for response. As I understand your request, you wish for the Waste Evaluation Unit (WEU) to determine if the Airco facility in Santa Clara was ever a treatment, storage or disposal (TSD) facility. In order to determine if Airco was a TSD, a determination must be made as to whether what Airco was treating would be considered a hazardous waste.

You provided several letters related to the Airco Special Gases facility in Santa Clara. The letter dated March 21, 1983, addressed to Mr. Peter Rogers, former Chief of the Hazardous Waste Management Branch and signed by Mr. Lawrence Bierlein representing the Compressed Gas Association served as the basis of my review. In the letter dated July 10, 1991, addressed to Mr. James Merriam of Airco Industrial Gases, and signed by Mr. Walter Larson of the Fees Unit, July 1, 1990 to June 30, 1991 is stated as the period of dispute.

Airco is a cylinder filling/recharging facility. Cylinders are typically returned to gas suppliers with some residual gas inside. Positive pressure is maintained in the cylinders to resist entry of air, moisture, or other contaminants that might cause corrosion or pitting of the interior. WEU would agree that when a customer has exhausted all commercial use of the gases in the cylinder (but residual gas remains) and then returns the cylinder to the gas supplier for refilling that the customer has not generated a waste. The customer is returning the property of the gas supplier so that the gas supplier can determine proper management of the cylinder (e.g., refill as is, purge and then refill, or discard). However, upon return of the cylinders to the gas supplier a waste is generated when "in the refilling process, the residual contents may be vented to the atmosphere, burned in flare stacks, or in the case of certain gases having

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properties making venting inappropriate, may be run through scrubbers before being released to the atmosphere."

Gases which may be handled through the scrubbers include amine mixtures, ammonia (X), arsine (X,EH), boron trichloride (X,C,R,EH), boron trifluoride (X,C,R,EH), chlorine (X,C,R,I,EH), dichlorosilane, ethylene oxide (X,R,I), hydrogen chloride (X,C,R,EH), hydrogen fluoride (X,C,R,EH,U), hydrogen sulfide (X,I,EH,U), isocure, nitric oxide (P), nitrogen dioxide (X,I,P), nitrous oxide (P), phosphine (X,I,EH,P), phosgene (R,I,EH,P), silane (X), silicon tetrafluoride (X,C,R,EH), and sulfur dioxide (X). [X denotes (non-RCRA) toxic wastes, C denotes corrosive wastes, R denotes reactive wastes, I denotes ignitable wastes, EH denotes extremely hazardous wastes, U denotes U-listed (RCRA) toxic wastes, and P denotes P-listed acute hazardous wastes.]

According to the definition of waste in Section 25124 of the Health and Safety Code, the residual gases would be considered wastes. The statutes states in part that a "waste means any solid, liquid, semisolid, or contained gaseous discarded material that is not excluded by this chapter or by regulations adopted pursuant to this chapter." Discarded material includes any material that is relinquished. A waste is relinquished if it is disposed of, burned or incinerated, or accumulated, stored, or treated, but not recycled before being relinquished. Identical language appears in the regulations in section 66261.2, Title 22 of the California Code of Regulations (22 CCR) and section 261.2, Title 40 of the Code of Federal Regulations (40 CFR). [State definition or a variant thereof has been in existence since 1988. Prior to 1988, State definition was less specific in nature. Federal definition has been in existence since May 19, 1980 (45 FR 33119).]

Additionally, according to section 66261.7(1), 22 CCR and section 261.7, 40 CFR, a compressed gas cylinder is exempt from regulation when the pressure in the container approaches atmospheric pressure. In his March 21, 1983 letter, Mr. Bierlein stated that the cylinders are returned to gas suppliers under positive pressure. Therefore, these cylinders would not be exempt from regulation under these provisions. [Federal citation has been in existence since November 25, 1980 (45 FR 78529). State adopted citation on July 1, 1991.]

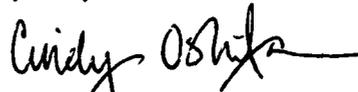
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Lastly, according to the comment note in section 261.33(c), 40 CFR, "unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed; or being accumulated, stored, transported or treated prior to such use, re-use, recycling or reclamation, EPA considers the residue to be intended for discard, and thus a hazardous waste. An example of a legitimate re-use of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue." [Comment has been in existence since November 25, 1980 (45 FR 78529).]

Based upon the regulatory citations given, WEU would have, during July 1, 1990 to June 30, 1991, as well as presently, considered the residual gases in the cylinders to be hazardous wastes. The subsequent management of the gases should be considered management of a hazardous waste and subject to regulation by the Department. You may wish to consult with staff in the Hazardous Waste Management Program who are familiar with process engineering and air pollution control devices to obtain an opinion on the management activities performed on the residual gases.

I hope this response satisfies your request for assistance. If you have any questions concerning this memorandum, you may contact me at (916) 324-4943.



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