

The Society of the
Plastics Industry, Inc.



1025 Connecticut Avenue
Washington, D.C. 20036
(202) 822-6700

September 19, 1986

Toxic Substances Commission
City of Sacramento
Sacramento, California

Re: Proposed Sacramento City Ordinance
to Ban Plastic Pipes in New
Construction, Remodeling and Repair

Ladies and Gentlemen:

The Society of the Plastics Industry, Inc.^{1/} hereby submits these Comments on the proposed amendments offered by Councilman Joe Serna, Jr. revising various sections of the Sacramento Building Code to eliminate the use of plastic products, specifically plastic pipes used for potable water, drain waste and vent (DWV) and conduit. The action proposed in these amendments is unwarranted and SPI strongly urges the Toxic Substances Commission to urge the City Council to

^{1/} The Society of the Plastics Industry, Inc. is a corporation organized under the Not-For-Profit Corporation Law of the State of New York. SPI is the major national trade association of the plastics industry, its membership being responsible for an estimated 75 percent of the total dollar volume of sales of plastics in this country. It is composed of approximately 1,700 member companies and individuals who supply raw materials, provide engineering services for the plastics industry, and engage in the manufacture of machinery used to make plastic products or materials of all types. The Society's membership includes the major producers of the resins used to make plastic pipe; consequently, SPI has participated in the broadest possible spectrum of federal and state regulatory proceedings related to the use of plastic pipe in building construction.

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vote against any ban on plastic products. There is no evidence that plastic pipe used for drinking water and drain waste and vent, conduit or water service lines poses any health or safety hazard to the citizens of Sacramento. Any plastic pipe used for drinking water is subject to careful testing under a program administered by the National Sanitation Foundation. In addition, the State of California Department of Housing and Community Development has underway an exhaustive review of plastic pipes in connection with the preparation of an Environmental Impact Report (EIR) on these products. While the EIR process has not yet been completed, the preliminary Environmental Review Document prepared by the state's consultants found as follows:

No evidence has been presented that would lead to the conclusion that either metal or plastic pipe ought to be banned -- no immediate and obvious threat to the health of workers in California is apparent.
(emphasis added)2/

Consequently, any action by City Council to ban plastic pipe would be premature and without a rational or scientific basis. The City Council should instead allow the state to complete the environmental review process without taking precipitous and discriminatory action against plastic products. More importantly, the proposed ban would prevent the use of life-saving plastic pipe for fire sprinkler systems. Such action will deny Sacramento's citizens the use of a safe and economical product, limit competition and increase housing costs.

2/ SRI International, "Environmental Review of Proposed Expanded Uses of Plastic Plumbing Pipe," March 1983. Prepared for State of California Department of Housing and Community Development (hereinafter "ERD").

I. There is No Need for Council Action Pending
Completion of the Environmental Impact Report

In connection with a proposal to allow the expanded use of plastic pipe statewide, the California Department of Housing and Community Development (CDHCD) determined that an Environmental Impact Report should be prepared prior to reaching a final decision on the expanded use of plastic pipe for potable water and drain waste and vent. The environmental review process is proceeding in compliance with the California Environmental Quality Act. This process has involved a painstaking review of all the scientific evidence available to date in connection with the environmental effects which might be produced by the expanded use of plastic pipe in the State of California. Industry, representatives of labor, and appropriate state officials have been involved in every step of the process. SRI International ("SRI") has been hired as the state's outside consultant to prepare the draft EIR. SRI has already produced a preliminary Environmental Review Document ("ERD") in which it thoroughly reviewed all of the scientific evidence available to date on health and safety effects related to the expanded use of plastic pipe. Although SRI cautiously recommended further study on certain issues, it found no evidence that any immediate danger is posed by the use of plastic pipes. Therefore, precipitous action to ban plastic pipe by the City Council is unwarranted.

Industry anticipated that the final EIR would have been completed long before now and that the necessary approvals for the expanded use of plastic pipe would have been issued by the state. However, unforeseen events, most recently the failure of the laboratory hired by the state to complete the required water leaching studies, has resulted in delays in completion of the EIR. Because of these delays, the Vinyl Institute, a division of SPI representing major manufacturers of vinyl (PVC) resins, contracted with McKesson Environmental Services, Inc., a nationally recognized environmental testing laboratory in Pleasanton, California, to conduct a series of leachate tests in accordance with the test protocol that had

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been developed by the State of California to be used in the EIR. This protocol was carefully designed with input from industry and the plumber's union representatives, to measure exposure to substances leached into water from new metal and plastic plumbing. Consequently, although the EIR process has not officially been completed, the major unfinished component of the EIR --leachate testing -- will replicate the tests already run by industry as discussed below. The tests show that no safety hazard whatsoever is posed by the use of these products.

A. McKesson Data Shows Plastic Pipe to Be Safe -- While Lead from Copper Pipe Systems May Be a Serious Health Hazard

McKesson conducted tests not only on plastic pipe (specifically chlorinated polyvinyl chloride -- or CPVC, a form of PVC) but on metal pipe as well (copper tubing with lead/tin solder joints). There was no plastics industry involvement in either the procurement of the pipe or the collection and analysis of the data. The results, which have just become available, show that drinking waters commonly encountered in the home can cause high and potentially unhealthy levels of lead and copper leachates from a copper tubing system. Lead is a known toxic substance which accumulates in the body, causing brain damage and other disorders. Copper can be toxic at high levels as well. Certain test conditions -- such as using a common home water softener -- resulted in copper and lead levels actually increasing over the entire 75-day test period. These leachates both were in excess of U.S. Environmental Protection Action (EPA) drinking water standards.

On the other hand, CPVC plastic system leached no carcinogens and no highly toxic substances. Very low levels of solvent cement components -- materials used in glue -- did leach from the piping system but were found to decrease with time over the 75-day period. In total, the health effects of the metal pipe leachates appeared to be much greater than the plastic leachates. The McKesson data has been submitted to CDHCD and is available for the City Council to review. The important point is that no evidence has developed that would justify a ban on plastic piping products. If the City

Council is seriously concerned about the health effects of plumbing materials, it should turn its attention to a more serious health problem involved in the use of traditional materials such as copper which employ lead solder. In fact, Congress recently passed amendments to the Safe Drinking Water Act to prohibit use of lead pipes, solder and fluxes because of the serious health threat posed by these materials (see attached Exhibit No. 1). Under the new law, 42 U.S.C. § 1417, each public water system is required to provide a notice to persons who may be affected by lead contamination of their drinking water. The Act further provides that pipes, solder or fluxes used in any public water system or residential plumbing system must be lead-free as defined by the Act. States are required to enforce the Act's lead-free requirements within two years. Congress also ordered the Department of Housing and Urban Development to restrict the use of lead pipes, solder and flux in all federally financed housing. 42 U.S.C. § 1417(c).

It seems completely inappropriate, therefore, for the City of Sacramento to consider banning the use of plastic pipe for potable water when the City's Code (Section 9.212.5) permits the use of materials such as lead, copper and asbestos cement for drinking water distribution. It is hard to avoid the conclusion that the proposed ban on plastic, where no evidence of a serious health hazard exists, is motivated by economic rather than health and safety concerns. This seems particularly true when there is apparent unconcern for the recognized health hazards presented by other materials.

In view of the fact that no evidence has been produced thus far that could give City Council a basis for the drastic action proposed here, the only fair and sensible course of action is for the City Council to await completion of the State's Environmental Impact Report on plastic pipe. As the City Council is undoubtedly aware, the environmental review process in California is thorough and exhaustive. SRI has already reviewed all available information on the possible impacts on public health of chemicals entering the drinking water from pipe, pipe joining materials or surrounding contaminated soils, possible injuries to plumbers as a result of installing pipe, the extent of danger from fires, the possible fiscal impacts on the price of housing, the employment of plumbers, and the pipe industry. Ironically, when the report is completed it will be an extremely thorough

investigation of plastic pipe while leaving relatively unexamined the more serious health issues related to traditional metal piping systems. The major component of the EIR yet to be completed -- leachate testing -- will replicate the tests already run by McKesson. Therefore, the City Council has assurance that the citizens of Sacramento will not be subject to health or safety risks during the time necessary to complete the EIR.

B. A Voluntary Industry Testing Program is Already in Place Which Protects the Public From Any Health Risks Due to the Use of Plastic Pipe for Potable Water

Certain special interest groups, who perceive their economic self interest will be adversely affected by the expanded use of plastic pipe, have raised speculative allegations related to the health and safety effects of plastic pipe and have succeeded in delaying approval for expanded use for nearly 10 years. California, under the Uniform Plumbing Code, already permits the use of plastic pipe for drain waste and vent applications within buildings up to two stories. Plastic pipe has also been approved to deliver potable water up to residential structures but has not been permitted for interior systems.

Being innovative products, the plastic materials used for both potable water and DWV pipe have been subject to intense scrutiny since they were first placed on the marketplace. Industry determined early on that health and safety related standards would be appropriate in order to gain public acceptance of these new materials. Consequently, an extensive and thorough program was undertaken, first with Battelle Memorial Institute in Columbus, Ohio and then with the National Sanitation Foundation ("NSF"), both nationally recognized and respected safety organizations, to establish health criteria for plastic pipe and provide a means of enforcing such criteria. Plastic pipe has been tested by NSF for nearly 25 years.

EPA recently recognized the valuable contribution made by NSF to drinking water safety by awarding that organization (together with the American Water Works Association)

a contract to administer EPA's indirect additive program under the Safe Drinking Water Act. Under this program, NSF and AWWA will be responsible for administering a third-party voluntary certification program to ensure that all plumbing materials undergo a certification type program similar to that which now exists for plastic pipe. No such program has ever existed for traditional materials such as copper and lead. Perhaps this is why the scope of the lead problem has gone undetected and unrecognized until recently. Because of these safeguards, the City Council can be assured, to the degree not possible with any other product, that the current use of plastic pipe does not create any adverse health or safety effects.

Acting as a voluntary standards organization, NSF through the years has obtained the highest reputation in the area of health and safety standards. These standards are developed with input from industry, government agencies such as EPA and FDA, consumer groups and public health experts. NSF Standard No. 14 covers not only plastic pipe itself, but also any fittings, materials, valves, tanks, joining material and appurtenances used for potable water and drain, waste and vent applications.

Although NSF standards are voluntary, most manufacturers uniformly have their products approved by NSF in order to ensure that their pipe will meet the requirements of model plumbing codes. For example, as SRI pointed out in its preliminary Environmental Review Document

It is generally understood that the UPC's [Uniform Plumbing Code's] reference 'manufactured to recognized standards' means listing by the National Sanitation Foundation (at least for potable-water applications). NSF, a not-for-profit voluntary standards organization, provides control over plastic pipe -- but not over metal pipe -- through its Standard 14. . . . Every manufacturer of pipe, fittings, pipe ingredients, or solvent cement who desires the NSF seal ("listing") must agree to use

NSF-accepted ingredients in an NSF qualified formulation and submit to frequent NSF monitoring of its product.^{3/}

SRI further explains that NSF only accepts ingredients (1) sanctioned by the United States Food and Drug Administration, or (2) cleared by data based on a 90-day laboratory animal feeding study. Complete disclosure of the chemical identity for ingredients is required by NSF. The formulation is qualified if it passes the extraction test with each specified extraction below its "maximum permissible level" based on EPA standards. The product can continue to maintain its listing only as long it continues to pass the extraction test and other size and strength tests, for example, impact resistance in static water, pressure/rupture test.^{4/}

SRI further points out that NSF takes pipe samples from plants about three times a year and inspects the plants for conformance with formulations, quality control and other sanitary practices. The choice of substances to be analyzed is based on EPA drinking water regulations and other considerations.

If samples fail a test, the manufacturer is given a short time to correct the problem and then it is resampled. If problems persist, the product is delisted. The company's other products may be delisted in extreme cases. If a failure disqualifies a product for use, NSF requires the manufacturer to destroy the defective inventory.

It should be pointed out that NSF is continually updating the requirements of Standard 14 and since the SRI ERD was written, two changes have been made in the standard tightening the testing requirements for plastic pipe. On , the permissible residual level for vinyl chloride monomer has been decreased from 10 ppm to 2 ppm. This refers to the amount of vinyl chloride monomer which may remain in the

^{3/} ERD at III-19-20.

^{4/} ERD at III-20.

pipe wall after manufacture. This reduction in the level means that in order to ensure compliance with the 2 ppm level, manufacturers must consistently manufacture at the 1 ppm level, further assuring that there will be no risk of vinyl chloride monomer exposure. NSF has also adopted a new level of 100 parts per billion for total trihalomethanes, such as chloroform, which may be present in extracted samples. NSF is conducting tests to determine whether to include other organics in Standard No. 14. Thus far NSF has not obtained any results that indicate that there is a public health problem related to exposure to organics in drinking water but is continuing to study this question.

The question of whether buried water pipes are subject to permeation (migration of substances from surrounding soil through the pipe wall or joining materials and into drinking water) is being studied by the University of California at Berkeley at the direction of the California State Legislature. It should be noted that all types of buried piping are subject to some form of permeation. While there have been anecdotal reports of permeation of plastic pipes buried in heavily contaminated soil, no evidence of a widespread problem exists -- certainly no evidence justifies a ban on plastic service lines as proposed by Councilman Serna. Industry has conducted tests on permeation on PVC pipe and has reviewed the scientific literature on this question. These studies indicate that permeation is not a problem in normal soil conditions and is a problem for all types of piping in heavily contaminated soil. These reports and studies are available for the Commission's review. (A summary of a Report by Battelle is attached as Exhibit No. 2.)

C. There is No Evidence That Plumbers are at Risk from Use of Plastic Pipes

Again, SRI's conclusion in the Environmental Review Document was that plastic pipe posed no immediate and obvious threat to the health of workers in California.5/

5/ ERD at IV.C-53.

SRI's conclusions in regard to worker health were cautious in recommending further study stating:

there does appear to be at least the potential for excessive exposures to effluvia from either metal pipe work (solder fumes) or plastic pipe work (solvent vapors). Based on the limited human data in the available records, neither of these appear to be extraordinarily dangerous. There is no "epidemic" of solvent related illnesses among plumbers in California during the recent past when plastic pipe was broadly introduced into residential and commercial construction.6/

All the evidence reviewed to date, indicates there is no health threat to plumbers working with plastic pipe. At most, recommendations have been made for further study in this area. This call for further study, SPI believes is unnecessary since the National Institute of Occupational Safety and Health (NIOSH), which studied the exposure of plumbers and pipe fitters during installation of plastic pipe, found that exposure levels for individual solvent vapors were 20 percent or less of the OSHA or other applicable exposure criteria for the substance in question. Since excessive exposures were not found, NIOSH concluded that plumbers could be adequately protected from any possible adverse health effects by sensible workplace practices such as wearing gloves, ensuring proper ventilation and educating plumbers on proper use and handling of solvent cements.7/

6/ ERD at IV.C-52.

7/ NIOSH Health Hazard Evaluation Report, HETA 82-293-1482, 83-279-1482, July 1984.

Industry also requested one of the country's leading toxicologists, Dr. Arthur Furst^{8/}, to review and critique the studies included in the SRI Environmental Review Document as well as other leading scientific reports on the health affects of common solvents used in the plastic pipe industry. Based on his review of the literature, Dr. Furst concluded that recent studies indicate that plumbers are not exposed to significant air concentrations of solvents. Secondly, Dr. Furst concluded that the data did not indicate that plumbers have suffered ill effects by using plastic pipe or that the solvents used in joining plastic pipe are unusually toxic (see attached letter by Arthur Furst, Exhibit No. 3). Dr. Furst agreed with NIOSH that exposure to solvents by both inhalation and dermal contact can be minimized by simple good work practices.

In sum, there is no evidence that a health hazard is presented by continued use of plastic pipe by plumbers in California or in the City of Sacramento. Certainly no evidence justifying a complete ban on the product has been forthcoming. Such extreme action would be completely inappropriate and arbitrary.

D. The Use of Plastic Pipe Does Not Present a Fire Safety Risk

Plastic pipe represents a very small portion of the total amount of combustibles that are present in a typical building. Furthermore, plumbing is usually encased in behind fire resistive panels. Therefore, these products are not likely to become involved in a fire until the combustion of other materials in a building has already created a serious fire situation requiring fire fighters to wear protective breathing apparatus. Because pipe represents such a small portion of total pounds of building materials and furnishing, total contribution to fire risk is negligible.

^{8/} Dr. Furst is a resident of Palo Alto, former president of the American College of Toxicology and Professor Emeritus of the Institute of Chemical Biology at the University of San Francisco.

One of the reasons advanced for the proposed ban on plastic pipe is the alleged concern that these products may mit toxic fumes in a fire, creating an undue risk for Sacramento's firefighters. There is no basis on which to conclude that the uses of plastic pipe which are currently permitted under California law i.e., PVC and polyethylene (PE)) which is currently allowed for buried water service lines outside of residence where no fire hazard exists; and acrylonitrile-butadiene-styrene (ABS) and PVC for DWV applications in non-fire rated structures) present a fire hazard. Likewise, no case has been made against plastic pipe used for electric conduit which would also be banned under Councilman Serna's proposal.

The overwhelming number of experts who have studied the question of smoke toxicity agree that determining the risk presented by a particular product in a real-life fire scenario is complex. The National Bureau of Standards, for example, has developed a Fire Hazard Model which has five dimensions, ignitability, smoke generation, rate of heat release, flame spread rate and toxicity. SRI reviewed many of these same elements in concluding that plastic pipes do not present an unusual fire risk.

As SRI reported, California has extensive experience with the use of plastic pipe for DWV systems. Perhaps one million ABS DWV systems have been installed in non-fire rated building, typically one- and two-story residences in California. There is no evidence that this use has contributed to any increase to fire risk to Californians.^{9/} Hence, there is no basis for the City Council's proposal to ban the use of plastic pipe for DWV systems in non-fire rated construction.

After an extensive review of scientific studies and fire statistics, SRI concluded that:

In non-fire rated construction containing ABS or PVC DWV systems as currently permitted, the addition of PB or CPVC water supply systems will not increase the fire

^{9/} ERD at IV.D-23.

spread problem. Furthermore, because of the water cooling, the contribution to toxic products will be less than for the same amount of DWV pipe.

In fire rated construction, fire stops and other construction details permit the DWV system to pass the fire rating test; similar procedures can adequately protect the water supply system. Here, also, the toxic pyrolysis in combustion product will be less than for the DWV system . . .^{10/}

SRI's conclusions are based in part on the study conducted by the California State Fire Marshall that concluded that "the use of plastic pipe in non-fire rated construction, whether in residential, commercial, or industrial occupancy, does not present an unusual fire risk."^{11/}

SRI also examined the question of whether or not the use of plastic pipe would add to fire intensity and consequently, increase the risk for firefighters. SRI points out that overall plastic pipe will represent a negligible amount of total combustible material that will typically be involved in a fire. If pipes burn, SRI points out, it will be after the contents of the rooms have been consumed, thereby generating enough heat and toxic smoke to require protective gear for the firemen.^{12/} Again, quoting the 1980 State Fire Marshall's report, SRI states:

With regard to the protection of firefighters and the need for additional and/or more special firefighting tools, it would appear that sufficient protection is afforded to the use of self-contained breathing apparatus. This equipment, available to the fire service,

^{10/} ERD at IV.D-25.

^{11/} ERD at IV.D-22.

^{12/} ERD at IV.D-26.

does in fact moderate the question of the hazard of the products of combustion to a low toxic risk, since self contained breathing apparatus is a totally enclosed environment. What is of concern is the hesitancy among some within the fire community to recognize and accept the value of this equipment as a significant and appropriate vocational tool.^{13/}

SRI reviewed at length the question of smoke and combustion product toxicity of plastic pipe in a fire environment. Recognizing that the analysis of the hazard presented by a particular material in a fire environment is extremely complex, SRI reviewed the nature of plastic pipe composition and formulations, the nature of decomposition of the material in a fire situation, toxicants likely to be released by fires involving plastic pipes, and the role of a particular fire scenario in assessing any risk.

SRI examined three typical scenarios which it considered representative of the proposed expanded use of plastic pipe. In the first case, fire in a room with plumbing within fire-resistive separations (walls or other fire resistant construction) SRI concluded that the thermal insult to the pipe in the wall is probably inadequate to generate a toxic threat from the pipe material . . . and its effect, if any, "would be insignificant in relation to the smoke, heat, and toxic combustion products that would accompany the fire in the room."^{14/}

In the next scenario examined, fire in a room with some plumbing exposed or concealed by non-fire resistive construction, SRI found that even taking the extremes of the estimated toxicity for PVC and ABS, persons in the room would

^{13/} ERD at IV.D-26. SRI also pointed out that the fire-fighters should be wearing apparatus to avoid injury from toxic products generated by other contents of a building.

^{14/} ERD at IV.E-13.

be likely to succumb as a result of the burning of structural materials and room furnishings rather than as a result of toxics contributed by plastic pipe.^{15/} Finally, looking at a fire in a concealed space containing plastic plumbing, SRI concluded that occupancy safety could be assured by a reasonably gas-tight (and fire-resistive) chase enclosure to restrict the flow of combustion products.^{16/}

SRI also looked at the question of how one measures and assesses toxicity in a real life fire scenario. SRI pointed out, as many experts have, that in a fire situation "predicting the causative agent or factor having the predominant impact on human health can be difficult."^{17/} Attempting to measure combustion toxicity and its contribution to any particular fire hazard is extremely complex and no acceptable tests or measurement currently exists.^{18/} Experts at all levels of state, local and federal government are studying the question of combustion toxicity and are working to develop of a realistic and predictive test method.

While the ERD did not evaluate the fire risks posed by the use of plastic pipe for electrical conduit, a number of studies have been done on this question. These have shown that using proper construction technique no unusual fire risk is presented by these materials. Since 1962, the use of plastic conduit has been permitted under the National Electrical Code (Article 347). Similar to plastic water and DWV pipe, plastic conduit, used in accordance with the National Electrical Code, is not likely to become involved in a fire until there is extensive burning of other materials in a room, already rendering the area untenable. SPI is submitting

^{15/} ERD at IV.E-15.

^{16/} ERD at IV.E-16.

^{17/} ERD at IV.E-26.

^{18/} ERD at IV.E-34.

a synopsis of the results of test verifying that plastic conduit does not present undue hazard to the citizens and firefighters of Sacramento. (See Exhibit No. 4 "The Case for Plastic Conduit versus Steel Conduit in Construction" and Exhibit No. 5 "The Use of Electrical Non-Metallic Tubing, Fire Hazard Analysis.")

One of the most serious effects of the proposed ban on plastic pipe would be to prevent the use of these products for life-saving fire sprinkler systems. Use of plastic pipes in these systems lowers their cost and thereby promotes safety. The City Council would be doing a serious disservice to the citizens of Sacramento by enacting a ban which would prohibit the use of an economical product which reduces fire hazards.

It is clear from the record developed thus far that no unusual hazardous presented by the use of currently approved applications of plastic pipe, i.e., DWV uses in non-fire rated construction, plastic conduit or buried potable water pipelines outside of the building, nor is any unusual risk presented by the expanded use of plastic pipe for potable water in buildings above two stories. Consequently, the enactment of a ban would be arbitrary and capricious.

II. The Proposed Ban Will Deny City Residents the Benefits of Lower Cost Housing

Plastic pipe is not only generally less expensive than other types of piping systems, it is also easier and less expensive to install, repair or replace. Its use in residential construction can result in substantial cost savings to consumers. SRI, for example, estimated a total cost savings (material and labor) of about \$150.00 per single family unit if plastic pipe where used instead of metal. In addition, homeowners would also realize savings on repair and replacement costs.^{19/} The Plastic Pipe and Fittings

^{19/} ERD at IV.F-2-3.

Association estimates that the cost savings between PVC and cast iron DWV pipe systems is in the range of \$1,500.00 for a two-bath residence. (See Exhibit No. 6). While experts may disagree on the exact cost savings, it is clear that the City Council by banning the use of plastic pipe will deny city residents the benefit of a choice between materials and a clear cost savings on plumbing systems.

III. The Proposed Ban is Overly Broad and Discriminatory

Councilman Serna's proposal would ban use of plastic materials in plumbing applications as well as for service lines outside of buildings and for electrical conduit. This proposal, consequently, would ban products that are currently in use in the State of California with state approval and widely used throughout the United States. The sweeping nature of this proposal is evidence of its arbitrariness. In addition, the proposal leaves untouched code provisions which permit the use of lead, asbestos cement pipe and copper systems using lead solder which present clear health concerns to the public.

Particularly objectionable is the proposal to require any seller of property to disclose to the buyer if plastic pipe or conduit has been used. This proposal is irresponsible and amounts to a "scare tactic" which will needlessly alarm prospective purchasers. One must seriously question the City's action when similar concern is not expressed over the danger to the public of lead exposure. To single out plastic pipe when no basis exists for such action would be evidence of bad faith and discrimination on the part of the City Council. The exhaustive environmental review process, which SPI believes will completely confirm safety of plastic pipe, has thus far presented no cause for immediate concern over the use of plastic pipe. Consequently, SPI strongly urges the Toxic Substances Commission to recommend that the City Council to reject Councilman Serna's proposal.

Respectfully submitted,

THE SOCIETY OF THE PLASTICS
INDUSTRY, INC.

By: Lewis R. Freeman, Jr.
Lewis R. Freeman, Jr.
Vice President, Government
Affairs

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