

## **Maternity Package Cover Letter:**

Congratulations \_\_\_\_\_ on the upcoming birth of your child! We wish you and your baby well. The purpose of this packet is to inform you of your rights under the law and provide you with information regarding the possible risks involved in remaining on the line in fire suppression or EMS while pregnant. We want you to be able to make an informed decision regarding what is best for you and your child.

### What laws cover pregnancy?

In 1978, the Pregnancy Discrimination Act was passed by Congress as an amendment to Title VII of the Civil Rights Act of 1964. The purpose of the Pregnancy Discrimination Act (PDA) was to prevent arbitrary and discriminatory treatment of pregnant workers. It assures you that we will do for you, as a pregnant worker, at least as much as we do for the employee who is injured off duty.

In 1987, the Supreme Court ruled in California Federal Savings and Loan Association v. Guerra and further clarified the PDA. Employers may legally do more for the pregnant worker than for the worker injured off duty.

In 1991, the Supreme Court ruled in United Automobile Workers v. Johnson Controls, Inc. Their ruling stated that "Decisions about the welfare of future children must be left to the parents who conceive, bear, support and raise them, rather than to the employers who hire those parents."

These decisions by the Supreme Court allow you to remain on the job as long as your condition does not affect your job performance or pose a threat to you, your co-workers or the public. The Supreme Court rulings also allow us, upon your request, to guarantee reassignment to a non-hazardous job.

### What are the risks involved?

Enclosed are research summaries covering some of the known risks involved in reproduction, pregnancy and nursing while exposed to toxins. Research involving fire fighters and the unique hazards and toxins to which fire service personnel are exposed is limited when addressing the specific issue of potential harm to a fetus or to the eggs or sperm prior to conception. While the choice is clearly a very personal one, we encourage you to request a light duty assignment when you learn you are pregnant in order to provide a safer environment for you and your baby.

Two of the enclosed articles were published in the American Journal of Industrial Medicine in 1991. The authors studied the reproductive hazards of firefighting in both men and women.

- One of the studies addressed non-chemical hazards; in summary, the risks to reproduction from these hazards include heat, noise, and physical exertion. These three exposures may affect fertility, cause fetal loss, and/or affect the growth of the fetus. The raising of the core temperature was found to be the most hazardous factor for both women and men. Exposure to some viral agents can also pose a significant risk to the fetus.
- The second article addressed chemical hazards. It contains tables indicating the reproductive toxicities of many chemicals, including mutagenic and carcinogenic findings. The chemicals listed are not inclusive of all potential chemical exposures, nor have the effects of all chemicals listed been tested on humans or tested in a fire environment. Carbon monoxide is present at virtually every fire; the authors discuss how this gas is even more dangerous to a fetus than it is to an adult.
- The final article enclosed discusses pollutants in human breast milk. While this article does not address firefighters or the toxins present in fires, it does explain that there are risks involved in breastfeeding when the mother is exposed to toxins.

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"I have received the material contained within the Maternity Package and acknowledge receipt of such by my signature."

Signature\_\_\_\_\_ Date\_\_\_\_\_

### Your Rights under the Family and Medical Leave Act of 1993

The FMLA requires covered employers to provide up to 12 weeks of unpaid, job-protected leave to “eligible” employees for certain family and medical reasons. Employees are eligible if they have worked for a covered employer for at least one year, and for 1,250 hours over the previous 12 months.

REASONS FOR TAKING LEAVE: Unpaid leave must be granted for any of the following reasons:

- to care for the employee’s child after birth, or placement for adoption or foster care
- to care for the employee’s spouse, son or daughter, or parent, who has a serious health condition; or
- for a serious health condition that makes the employee unable to perform the employee’s job.

At the employee’s or employer’s option, certain kinds of paid leave may be substituted for unpaid leave.

ADVANCE NOTICE AND MEDICAL CERTIFICATION: The employee may be required to provide advance leave notice and medical certification. Taking of leave may be denied if requirements are not met.

- The employee ordinarily must provide 30 days advance notice when the leave is “foreseeable”
- An employer may require medical certification to support a request for leave because of a serious health condition, and may require second or third opinions (at the employer’s expense) and a fitness for duty report to return to work.

JOB BENEFITS AND PROTECTION:

- For the duration of FMLA leave, the employer must maintain the employee’s health coverage under any “group health plan.”
- Upon return from FMLA leave, most employees must be restored to their original or equivalent positions with equivalent pay, benefits, and other employment terms.
- The use of FMLA leave cannot result in the loss of any employment benefit that accrued prior to the start of an employee’s leave.

UNLAWFUL ACTS BY EMPLOYERS: FMLA makes it unlawful for any employer to:

- interfere with, restrain, or deny the exercise of any right provided under the FMLA;
- discharge or discriminate against any person for opposing any practice made unlawful by FMLA or for involvement in any proceeding under or relating to FMLA.

ENFORCEMENT:

- The U.S. Department of Labor is authorized to investigate and resolve complaints of violations.
- An eligible employee may bring a civil action against an employer for violations.

FMLA does not affect any Federal or State law prohibiting discrimination, or supersede any State or local law or collective bargaining agreement which provides greater family or medical leave rights.

FOR ADDITIONAL INFORMATION: Contact the nearest office of the Wage and Hour Division, listed in most telephone directories under U.S. Government, Department of Labor.

## Medical Considerations of Firefighter Pregnancies

The job of firefighting presents many potential hazards to healthy reproduction. It poses physical hazards such as drastic temperature variations, extreme and unpredictable physical exertions, demands, and psychological stress. Firefighters may also be exposed to biological or radiation hazards. The fire environment may also produce a wide range of chemical agents, including irritant and asphyxiant gases and other toxins.

Human reproductive health as it is affected by the work environment is a relatively new area of study. The clearest connection between an environmental agent and adverse reproductive outcomes for both men and women is in the case of ionizing radiation, which is not a common exposure for most firefighters. Prolonged exposure to high ambient temperatures, however, may also have a detrimental effect on fertility and pregnancy. High heat exposure has been related to infertility in men and may be linked to neural defects in the babies of exposed mothers.

Chemical agents in the fire environment are numerous and unpredictable. The toxic effects of fire smoke have been tentatively linked to a number of physical problems, including respiratory disease, coronary artery disease and malignancies. Many chemical agents in the fire environment may also adversely affect reproduction. Carbon monoxide, carbon dioxide, hydrogen cyanide, acrolein and other aldehydes, sulfur dioxide, hydrogen chloride, nitrogen dioxide, and benzene are all commonly produced in fire environments. Research shows that all of these compounds may have detrimental effects on reproduction. Pregnant women and their fetuses are especially affected by carbon monoxide exposures.

Although much more study is needed, existing research suggests that both men and women are vulnerable to reproductive toxicity in the firefighting environment. In addition, the potential hazards to developing fetuses pose special concerns for pregnant firefighters. Source: "Reproductive Hazards of Firefighting I and II," Melissa McDiarmid, M.D., et al., *American Journal of Industrial Medicine*, 19:433-472 (1991).

Wage and Hour Division, Washington, DC 20210 June 1993

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Healthy Milk, Healthy Baby

Chemical Pollution and Mother's Milk

Chemicals: Dioxins and Furans

Dioxins (the common name for polychlorinated dibenzo-para-dioxins) and furans (polychlorinated dibenzofurans) are two closely related groups of chemical byproducts that are produced throughout the world. Both groups consist of chlorinated compounds that have a range of congeners – members of the same structural group with different configurations. The congeners differ in terms of the number, position, and combination of chlorine atoms on the molecule. There are 75 possible dioxin congeners and 135 possible furan congeners. The dioxin and furan congeners thought to be most toxic to humans are the seven dioxins and ten furans with a particular pattern of chlorines known as the 2,3,7,8-congeners. Most studies measuring human exposure to dioxin and furans focus on this group. The term "dioxin" is often used to refer to this group of 17 congeners.

Dioxins and furans are not produced intentionally. They are byproducts from a range of chemical, manufacturing, and combustion processes including:

- production of certain pesticides (i.e. chlorophenol, chlorophenoxyacetic acid);
- paper pulp bleaching;
- production of certain dyes and pigments;
- municipal waste incineration;
- sewage-sludge incineration;
- hospital-waste incineration;
- polyvinyl chloride plastic (PVC) production and incineration;
- diesel-engine exhaust;
- accidental fires and explosions of chlorine-containing material;
- metal production; and
- combustion of wood.

Incineration is believed to be the main route by which dioxins and furans are produced and is often the area of focus in pollution-prevention efforts.

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The above information is from the website of the Natural Resources Defense Council:

[www.nrdc.org/breastmilk/chem9.asp](http://www.nrdc.org/breastmilk/chem9.asp)

## Polybrominated diphenyl ethers (PBDEs)

**Chemicals: PBDEs** Polybrominated diphenyl ethers (PBDEs) are a class of widely used flame retardants. They are added to the plastic material in televisions and computers and are also found in construction materials, furniture, and textiles. The chemical structure of the PBDEs closely resembles the structure of PCBs, dioxins and furans. Rather than containing chlorine, however, these chemicals contain bromine. Unlike the PCBs and many of the organochlorine pesticides, the PBDEs are not banned anywhere, and are widely used throughout the world. The production and use of PBDEs have steadily increased since the 1970s. PBDEs are persistent in the environment and have a high potential for bioaccumulation. PBDE contamination has been observed in the environment for years, particularly in marine mammals, and is a problem for humans as well.

### Health Effects of PBDEs:

Because PBDEs have been recognized as environmental contaminants only recently, they have not been extensively studied for health effects. As with most industrial chemicals, they were subject to no testing requirements for safety prior to their debut on the market and their release into the environment. The similarity of the PBDEs to the dioxins and PCBs gives many scientists cause for concern that their negative effects on health will prove similar. In fact, preliminary studies indicate that these chemicals may have many of the same properties as the banned toxicants. In particular, scientists have found indications that the PBDEs may affect hormone function and may be toxic to the developing brain. The PBDEs have been associated with non-Hodgkin's lymphoma in humans, a variety of cancers in rodents, and disruptions of thyroid hormone balance.

### PBDEs in the Body:

PBDEs can enter the environment during the production and disposal of materials containing PBDE flame-retardants, as well as during the lifetime of PBDE-containing products. PBDEs are not chemically bound to plastics, so they can evaporate into indoor air or the outdoor environment. Once released, PBDEs can build up in the environment and in living organisms, binding strongly to sediment and building up in fish and other aquatic organisms. Human exposure to PBDEs mainly occurs as a result of eating PBDE-contaminated fish. Worker exposure occurs during the production of PBDEs or PBDE-containing products. Consumers may also be exposed to PBDEs by breathing indoor air in the vicinity of electronic equipment or fabrics treated with these chemicals. PBDEs were first found in sediment in the United States and in fish in Sweden in the early 1980s. Since then, several studies have found PBDEs in different human tissues, including blood, fat, and breast milk. Still, only a few studies have sought to measure PBDEs in breast milk. The data regarding PBDEs is limited in part because PBDEs have only recently been acknowledged as a chemical class of concern.[3] In future breast-milk monitoring studies, PBDE residues should be routinely examined.

### Controlling Exposure: Bans and Restrictions:

No known restrictions have been placed on the production and use of PBDEs. However, the Swedish government has announced its intention to ban PBDEs in products sold in Sweden, based partly on the detection of these chemicals in breast milk.

#### Benchmarks and Exposure Limits for PBDEs:

Because PBDE contamination is a relatively newly understood phenomenon, no benchmarks or "safe" levels have been set for human exposure.

#### Breast-milk Monitoring Studies Looking at PBDEs:

Very few breast-milk monitoring studies have measured PBDEs. Extensive data from Sweden, and some limited data from Germany have been collected. The data from Sweden sounded the first alarm about the potential for breast-milk contamination from PBDEs. In the Swedish study, archived samples collected between 1972 and 1997 were recently analyzed for the presence of PBDEs to get an overall summed total of PBDEs in milk. The data from Sweden show a drastic increase in the quantity of PBDEs detected in women's breast milk. Since no definitive data regarding the health effects of children's exposure to PBDEs in breast milk have been published, it is not possible to draw conclusions regarding the impact of these rising levels. However, enough is known to raise concerns. Like the dioxins, furans, PCBs, and organochlorine pesticides, PBDEs are bio-accumulative and persistent. Unlike these other chemicals, no serious international efforts are under way to ban these hazardous chemicals. The trend toward higher levels in breast milk signals a need for immediate action to stop human exposures, before the levels rise higher and risk compromising the safety of children's first food. Toward that end, other monitoring studies in other countries will help clarify the scope of the problem.

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The above information is from the website of the Natural Resources Defense Council:

[www.nrdc.org/breastmilk/chem10.asp](http://www.nrdc.org/breastmilk/chem10.asp)

## **Bibliography**

These articles may be of use to those researching the reproductive risks of firefighting to both men and women.

Evanoff, B.A., and L. Rosenstock, "Reproductive Hazards in the Workplace: A Case Study of Women Firefighters," *American Journal of Industrial Medicine*, 9:503-515. This early (1985) study attempts to balance the employer's needs with the risks of firefighting during pregnancy, and "seeks a reasonable accommodation between employment and fetal and maternal health." It concludes that while firefighting clearly poses risks to a healthy pregnancy, many women may find it necessary to stay in active suppression up until the end of their first trimester.

McDiarmid, Melissa, M.D., et al., "Reproductive Hazards of Firefighting," *American Journal of Industrial Medicine*, 19:433-445 (1991) and 19:447-472 (1991). This research deals with reproductive hazards for both male and female firefighters. Part I deals with chemical hazards, Part II with non-chemical (e.g., heat, noise, physical exertion.) The abstract from Part II states: ...There is evidence that heat, noise, and physical exertion may affect various endpoints of reproductive health, including fertility, fetal loss, and growth parameters of the offspring. In particular, hyperthermia, a major fire fighting hazard, has been shown to impair male fertility and may also be teratogenic.

Merewood, Anne, "Sperm Under Siege," *Health*, April 1991, pp. 53+. Focuses on potential harm to offspring through exposure of the father to toxic substances and other risks. Not specific to the fire service.

Olshan, Andrew F., et al., "Birth Defects Among Offspring of Firemen," *American Journal of Epidemiology*, Vol. 131, No. 2, pp. 312-321. Study links father's employment as a firefighter with congenital heart defects in offspring, and recommends further study on reproductive hazards of firefighting.

"Pollutants in Human Breast Milk," *Human Toxic Chemical Exposure (The Bulletin of Pacific Toxicology Laboratories)*. Article undated, probably 1990 or later. Brief (2 pages) discussion of the risks of PCB's, mercury, chlordane, heptachlor, dioxin, Dieldrin, and DDT in human breast milk.