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**ABSTRACT**

The name given to the most toxic dioxin family of chemicals with large formed from a proverb Manufacturing, casting or burning plastics containing chlorine and organic chemicals. Shows to get a little more serious health effects by a few trillion in body fat. In effect disrupt hormones, genetic control mechanisms in the cell, resulting in a wide range of effects cancer to reduced immunity, nervous system disorders, miscarriages and birth and cannot be a deformity overstated. Little by little to the human actions at the time of an increase in the concentration of natural environment, globally. And there is a lot of pollution and Trends in the levels and programs that reduce their pernicious effects on the environment and reduce the Humans.

**KEYWORDS:** Dioxins, Human Health, Toxic chemical, Monitoring, Contamination, Hazardous waste.

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**INTRODUCTION**

Dioxins are a toxic chemical & family of compounds that share some chemical structures and biological properties. There were worries about the potential health effects dioxins in the environment and in food store. In addition, the study Understanding the effects of dioxins the control group health industry, others are established and coordinated significant legislative volunteer efforts have reduced human exposure from industrial processes. According to Environmental Protection Agency (EPA) in their knowledge, USA, dioxin emissions from all and so far, at least 90 sources percent over two decades. First were found dioxins as cause serious health problems among workers who have been exposed to products explosions at chemical plants creating a chlorine -based pesticides in the 1950s. In these accidents was dioxin I have formed him and sent him to work -Place Environment, causing systemic health problems among workers. In the 1960s and 1970s, dioxin the same as a contaminant in pesticides even - part of Agent Orange and health problems began to emerge between Rises soldiers and civilians exposed In the Vietnam War. Subsequently against Pompano toxicological and epidemiological studies He showed that dioxin exceedingly heavy potent caused a number of carcinogens Elite organ systems of animals. In the 1980s, the size of a sudden exploded. Dioxin is formed detection alarm as it is in the manufacture of arms in some pesticides, but in the a variety of industrial processes involving Chlorine and chlorinated materials. Waste incinerators, paper factories that employ Chlorine as a bleaching agent found of release, most of the large amount of dioxin. The extent of environmental pollution proved much more dioxin previously thought. Dioxin was detected in the air, from the water; wild animals live a truly global The great depth of the sea to the north from the lake pol. significant concentrations of dioxin were Bodies of men in general population and "market - basket" study human food supplement. By the end of 1980 it was made clear that every man is in the world dioxin exposure. Only in the 1990s, however, the risk of health dioxin exposures is constituted by universal clear. In 1994 the US Environmental Protection Agency (EPA) released the long- and awaited the "Dioxin Reassessment". EN project started at the beginning and paper chemical industry pushed Agency revise downward its estimate of dioxin toxicity and thus weaken the rules dioxin sources.

**UNIVERSAL DIOXIN POLLUTION**

Two environmental behavior dioxin-like compounds, especially those problems. The first of many persistent, in opposition to the physical properties and chemical biodegradation, for decades, more. As a result, also appeared to be of glass; diluting discharges Encouraged then accumulates in the surrounding especially at the high levels of water and sediments into the atmosphere; Truly global distribution basis dioxins. Intimidation Arctic native in Canada, for example, some the highest body burdens of dioxins, furans and poly chlorinated biphenyls they are written, due to a diet -dependent fish and The local food chain of marine mammals be contaminated with dioxin from the different places of Industry sources.

Secondly, dioxins mixed with oil, the solution, for and insoluble in water, resulting in bioaccumulation fat tissue concentration and propagated the move food chain. More than advanced stages of the ambient air sediments. Dioxins are extremely persistent in human tissues, with an estimated 5 and a half years, 10 were like the men. By top predators of the human population particularly filthy rags. A spectrum dioxin like compounds was the same in their own fat, and the blood of the general breast milk population. Virtually all human exposures are the supply of these compounds especially through the consumption of fish, meat, eggs, and milk products. Significant He went amounts from the mother's womb, photography sensitive level the breasts, flowing with milk and through the placenta. The daily PCDD / PCDF an average dose of sucking in the U.S. is 10 to 20 times, greater than the average adult as the strong vulnerability takes approximately 10% of the total service

Their first exposition years.

In experimental animals, exposure to dioxins, in particular 2, 3, 7, 8 - TCDD was associated with a remarkable number of toxicological effects. Some of these effects It happened at an extraordinary low doses. Because For example, exposure of monkeys to only 5 parts per trillion - 2, 3, 7, 8 - TCDD concentrations in the diet as a result of impaired neurological the development of endometriosis. Pregnant the mice received the same weight 2, 3, 7, 8 - TCDD The pregnancy had a bad day in the off springs the natural birth but by puberty they changed reproductive demasculinized anatomy, decreased sperm count, sexual feminized behavior. The recent discovery that genome of HIV - the virus is contained in the regulatory 1 sequence that bind dioxin receptor Causing the transcription of the viral genes and active take care that it too can be as chemicals – dioxin we wish to infect someone disease.

Clear dioxin cause cancer. All 18 studies carcinogenicity 2, 3, 7, 8 - TCDD has demonstrated that dioxin is positive multi-site carcinogenic in both sexes in the rat, mouse and crocodile hamster by all routes of exposure. EPA has estimated that the current background exposures pose a high risk of cancer when the level exceeds one thousand acceptable as a danger signal times, if necessary, insofar as they were able to respond to As many as 3,500 US cancer deaths a year as a result of dioxin exposure. According to a review, epidemiological data from commercial And now accumulating that exposed workers convincing evidence that exposure to TCDD associated with many human cancers author respiratory lung, thyroid and bone disorders Sarcoma of soft, hematopoietic system, liver, and the thyroid glands of all cancers. Most toxic dioxins, 2, 3, 7, 8 - TCDD recently is classified as a known carcinogen International Agency for Research on Cancer (IARC), and classified as a probable human carcinogen by the Environmental Protection Department of innovative and Occupational Safety and Health. New (IARC) classification provides an important International Recognition of power dioxins affect human health.

While the non - cancer effects of dioxin Men with less care an indication that the PCDD / F exposure reduces male desires of the six steps, hormones, and it increases the risk of diabetes and related metabolic conditions. In human infants, several studies have indicated that dioxin mediated effects in the physical, cognitive, sexual development. Infants born to mothers who consumed three meals of fish, or a month, there were large lakes during the nascent responsive and hyporeflexic after presenting dosed depends deficit in visual recognition memory and action degree, these deficits are still present follow-up at the age of four.

PCBs were measured in the umbilical cord was cut service title overall exposure the pollutant and severe developmental deficits correlated PCB levels. There are indications thyroid hormone levels in changes to their courses, and an increase the occurrence of intracranial blood, immune suppression associated with lactation exposure to PCDDs, PCBs and PCDF in Europe Arctic Canada. In Africa and Nigeria, had little or no conscience, created by dioxin exposure on human health and the consequences. As a result of high or increasing concentration of dioxin also available supply circuit so it is clear from these areas of the world environmental pollution, deterioration contaminated food. Meet the need cannot be emphasized in the paper. The Actually much degraded season we are the most in the environment and Nigeria Africa as a whole. In order to increase the rate of cancer as well as evidence of the need to reduce harmful a hazardous contaminant levels of this data in high concentrations and there is no shortage of rank in its release AIDS activities environment.

#### **Dioxins sources**

According to medical waste incinerators, burning hazardous waste incinerators, cement earth, burning of the courses and sit facilities and incineration of sewage sludge the largest dioxin sources identified. Also important category is in

motion metallurgical processes (including copper, lead and steel smelters / recyclers), arson auto and just keeps burning wood products. Major sources inside the drum and barrel reclamation, tire burning, coal reactivation of fires in homes, offices and industrial to reject it is an important dioxin fires, but not having enough information was available to EPA develop an estimate.

However, three independent studies DEPA dioxin was confirmed picture of this generation, the central role of incinerators. One so the report is a comprehensive center biology Natural Systems; He found six Source sectors accounted for 91.5% of all dioxin deposition in the Great Lakes. Medical solid waste incinerators municipal waste incinerators, iron ore sintering plants hazardous waste incinerators, cement kilns, and founders of the secondary air. A Princeton University study found trash incinerators Hospital waste incinerators, hazardous waste Open burning of garbage incinerators, and bronze Recovers were responsible for 83% of steel dioxin-like air bananas in the United States. One worldwide inventory of dioxin sources located incineration of municipal waste, hazardous waste combustion, ferrous metal smelting top its list.

### **Dioxin deliver in Food**

The main sources of dioxin in food. Because dioxin is that the fat-soluble BIO-ACCUMULATES, climb up the food chain. A North American eating a typical American diet will receive 93% of their exposure to dioxin from eating meat, and dairy products. (23% of the milk, and a list alone; the other major sources of exposure beef, pork, fish, poultry, eggs). These fish bio-toxins that accumulate in the food chain dioxins in fish are 100,000 times greater than the surrounding environment. Because of dioxin hydrophobic (water-fearing) and lipophilic (fat loving) will quickly gather a lot of fish and more and in the water. The same applies to other wildlife. Dioxin works reached the top of the food chain. Men No, rather than dioxin According to chemically break down the half-life. Women have two ways are these organs. Namely (i) With the more powerful because the placenta into the baby (ii) makes using breastfeeding breast feeding for non-mothers quite dangerous for the lion. Worldwide statement on dioxin glad sources Combustion of waste, hazardous waste Incineration, ferrous metal smelting top but the list.

### **Dioxins human health effects:**

They brought this to the highest dioxins can result in skin readings, such as chlorine and patchy darkening of the skin, and altered liver function. Long -term exposure to due to disturbances in the immune system, developing nervous system, endocrine reproductive system and its functions. Chronic exposure to dioxins has resulted in animals distinct types of cancer. TCDD was evaluated He is the international agency in the research Cancer (IARC) in 1997. Based on data animal and human epidemiology data TCDD was classification IARC as a "known of human carcinogen".

### **Phase-out of PVC**

Reducing the production and application of PVC is a simple and effective, to prevent PVC-related dioxin contamination. By replacing PVC with alternative, chlorine-free materials PVC may be related to the formation of dioxin completely eliminated. Given the importance of the issues PVC nation's dioxin burden in the course of life, a PVC dry season is a top priority dioxin strategy.

### **The PVC Alternatives**

Most of all, the use of PVC and The only other alternative is appropriate to PVC application. Construction applications, such as with pipes, fittings, siding and window profiles, account for over 50% of PVC consumption. Other uses PVC Even wall coverings, floor vehicles, electronic equipment and a hotel cable coatings, and packaging of medical devices. Money-making in the industry, the development of the nations, packaging relatively less use of PVC, but it plays more or function in developing countries transition economies where consumption growth.

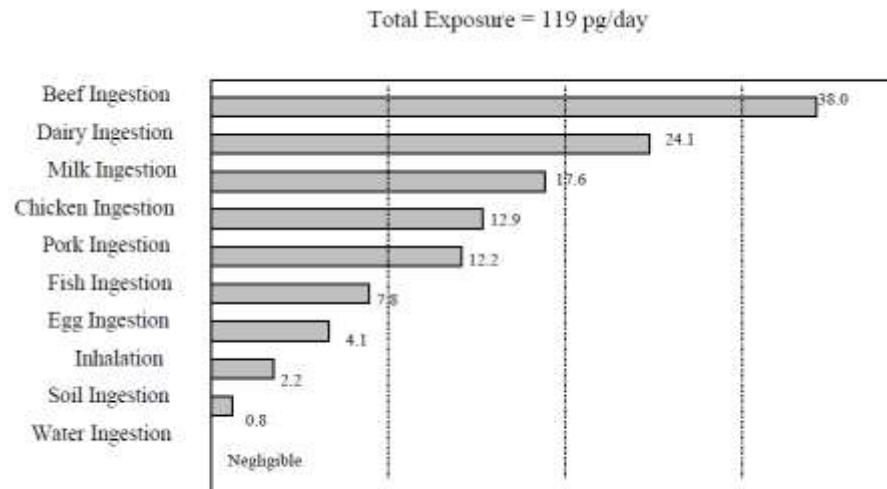


Figure 1: Levels of dioxin in food supply Source: (EPA, 2006)

### Progress towards a PVC Phase Out

A huge building, and hospitals have begun or completed mercifully give us security PVC from their successful attempt to save lives product lines or facilities. E.g. 200 cities across Europe - including major the cities are in Austria, the Netherlands, Germany, Sweden, Denmark and Norway, Luxembourg They have policies to limit or avoid the use of PVC Many construction projects in the public interest successfully built without major new buildings PVC. In vehicular, Euro-Tunnel, and the subway system in London, Vienna, Bilbao, Dusseldorf and Berlin are PVC-free. The British, German, and do not use the U.S. fleet the use of PVC for ships. The Olympic Stadium and other places 2000 Sydney Olympic village being built an obligation to avoid or minimize the use of PVC. In other industries, there many manufacturers have an example or PVC successfully placed in their product lines Volkswagen has stopped using PVC in its own vehicles, and Mercedes, Audi and Opel has adopted a similar policy. Sony Europe, AEG, IKEA furniture, Hertz, Tarkett and many retailers around the world PVC phase-out policy adopted on violence appliances, so the captain of the equipment, flooring packaging of the product, and. In Swedish Parliament has called for a phasing out of the specific PVC is used. Danish Government - Established Goal of phasing out the import of PVC Additive because of the numerous negative environmental properties. Checking plans to promote PVC - free construction in all and ordered the building, and in violation of all policies PVC burns. Spanish Senate asked the government for the use of PVC with the non-polluting substitute substances in the packaging, and to study the possibilities of total PVC phasing Spain.

### Dietary exposure to minimize Dioxins

Selecting a balanced diet low in saturated and total fat years helps consumers minimize the potential for dioxin exposure from food; dioxins in animal fats are for the most part due to its fat-soluble properties of the dioxin compound. It is advisable to choose leaner cheeses beef, pork, birds, and that which was fat and hairy removing the skin from a previously prepared food. The following are measures were also recommended to to minimize **dietary**

#### exposure to dioxins: -

- Slim milk sued for full fat milk products such as dairy or non-skin substitutes should dairy used.
- A woman considering having children they must not be a record-a record or fat fruit, fat vegetarian diet having his children in a number of years ago.
- Pork, beef, and freshwater fish, especially those from contaminated water to be avoided or minimized because they tend to absolute minimum a large concentration of dioxins food sources.
- Chicken has the lowest dioxin All the food is still possible. Vegetarian meat substitutes, such as tofu beans, rice and which do not possess of the infection.

### **Avoid Rock Springs Dioxins**

The continuation of measures to avoid sources of dioxin exposure.

- Herbicides and insecticides, containing Chloro phenol especially chlorine weeds murderers of 2.4 to 500, in fertilized the herbicides, especially for trade lawn services and farmers should be avoided.
- Avoid "Permethrin" flea sprays for pets.
- All organic chemicals that have "chlorine" Some of them (such as wood preservative pentachlorophenol, as is probably the most dioxin contaminated household chemical) the grant must be avoided.
- Bleached paper products and chlorine bleach (sodium hydroxide), and The product must also be avoided. Oxygen bleach is used, site.
- All those who are born, as well as personal and their products from toys or packaged in polyvinyl chloride (PVC) plastics labeled # 3 or 5 the grant must be avoided.
- The use of Saran Wrap and similar "Compliance Type" is made of plastic wraps avoided unless they are clearly identified as polyethylene).
- For all the fruits and vegetables washed well to remove chloro phenol pesticide residue. Grapes; and cake also be avoided unless it is clearly marked i.e. organically grown without pesticides.
- All products cottonseed an ingredient (such as chips) to be allocated because cotton is to be avoided chlorophenol sprayed with insecticides. Do not use soap containing tallow made from animal fat.
- Deodorants and soaps containing "Triclosan" is a chlorophenol avoided.
- Use unbleached (brown) or coffee filters as many as were ordained when he was thought to be, not with chlorine bleach.

### **CONCLUSION**

As a result of the health hazards of dioxin, and the need to limit the alertness, especially in the assessment In regions less developed countries, such as Nigeria, where Low awareness of the health consequences and environmental effects of dioxin. The negative effects of the human composition Salvation cannot be disclosed. It is the allocation of health (state of health) may be First is preventable and curable by removing much How immune suppressant elements the lifestyle, diet and environment on the one side of a monitoring work on the notorious environmental the most ubiquitous pollutants. And it is not essential to human health compromised. This is because the distribution of health factors can be avoided, it is never, or high. They also saved a large number of economy that saves people, "Health wealth "and he decided right salvation, and all the studies can be pursued Guinness.

### **RECOMMENDATION**

On the contrary, it is recommended that the state establishing and monitoring policies assess the concentration of pollutants in both environment and food. In addition to this, as follows, in order to make the present may also be seek to reduce toxic dioxins No class thermal environment.

- Phase-out of PVC production; Chlorinated PVC and chemical products. Efforts should be made by industries municipalities, but the local and the Federal Republic governmental regulatory agencies particularly Nigeria, to cut down industrial process successfully from the industry to reduce the amount of dioxins in the environment and community sources.
- Government, community and should be promoted too to stop indiscriminate bush burning, and uncontrolled burning trash combustion of waste products.
- Efforts should be made to create public information and education. This may not be the notification must be made through public awareness control and delaying war with non-governmental agencies.
- It is also recommended that governmental bodies NAFDAC include dioxin Tomorrow is the concentration of excess in food and his drink industry protect the safety of the people.
- In this regard, NAFDAC required to regulate the packaging of food products eating and drinking unworthily, shall take care that the chlorine-free materials are used as appropriate.
- The Nigerian environmental protection nor can the case be innovative Board Nothing will be left in the end. Working together with the Ministry of fate, in health and environment, and others.
- Agencies of things to take care of at home and abroad adequate pollution control technology; public information and law enforcement policies on air pollution leads.

- The Decree 1991 on pollution Nigerian waters within implemented effectively to ensure safe environment for the fish.
- Finally, the government and the individual must be intensified or to a zero level of dioxin a significant reduction in the environment, food and body weight. World (WHO) States should step up their activities in

Developing countries with respect to dioxin as Nigeria. They should also be and appeals with regard to instruction establishing laboratories to perform Most of the studies in this area Nigeria and Africa. Could grants Will also contribute to the development of Nations to implement its own organic and assessment of dioxins Their environment and food supply.

## REFERENCES

- [1] Alcock, E. and R. Jones, K. C. (1996). Dioxins in the environment; a review of the data trend. *Environmental Science Technology* 30 (11): 3133-3143.
- [2] Andersen, G. ET Knapp, M. (2005). A study on the creation of dioxins and other organ chlorine from the production of PVC. *Green Peace International* 2: 87-92
- [3] APHA American Heart Association (1996) The Council (9) 304, and to know your justice and speak with Environmental and health problems associated with chlorinated organic chemicals. *American Journal of Curabitur* 84 (3): 514-515.
- [4] Belazzi, T. ET combed, R. (1995). PVC at the hospital was: discrimination in employment and in the salvation of the alternatives the health care sector. *Greenpeace* 2A, 1030<sup>th</sup>
- [5] Belazzi, T. ET combed, R. (2001). PVC at the hospital were: use of the risks and safety of Alternatives The health care sector. *Greenpeace* 4: 855-866.
- [6] Birnbaum, E. (1994). Mechanism of toxicity of dioxin, the relationship between risks. *Unwanted Health Perspective* 102 (suppl. 9): 157-167.
- [7] Birnbaum, L. (2004). Dioxin risk assessment. *Environmental Health Perspective* 159: 289-291.
- [8] Brzuzy, L. P., and Hite, A. R. (1996a). Global mass balance for polychlorinated dibenzo-p-dioxins and dibenzo-furans. *Environmental Science Technology* 30 (6): 1797 to 1804.
- [9] Brzuzy, L. P., and Hite, A. R. (1996b). Comment response to the global mass balance di benzo-p-dioxins and polychlorinated di benzo-furans. *Environmental Science Technology* 30 (12): 3647-3648.
- [10] Chen, C. Y., Guo, L. Y., HSU, C. C. and Rogan, W. J. (1992). Cognitive development Yucheng (Oil illness) children prenatally exposed to heat degraded PCBs. *JAMA* 268: 3213-3218.
- [11] Cohen, and M. Commoner, B. (1995). The determination of and because of the fountain of dioxins, Furan and hexachlorobenzene as far as the great river, the lakes. *Biology Natural Systems*. 10: 8-15.
- [12] costen, P. (1997). Not Science Support from chlorine and dioxin combating trial design materials. *Greanpeace*. 5: 11-14.
- [13] Dewailly, E. (1994). Exposure to remote maritime populations planar PCBs. *Environment We want to save Perspective* 102 (Suppl. 1): 205-209.
- [14] Egeland, GM, Sweney, MH, Fingerhut, M. Halperin, W., Willie, and K. Schnorr, T. (2007). Total serum gonadotropin in the text Terone and workers exposed to dioxin. *Acta Epidemiology*. 139: 272-281.
- [15] Of enan, E., Liu, PC and Matsumara, F. (1992). 2, 3, 7, 8-tetrachlorodibenzo-p-dioxin causes Plasma membranes and the reduction of the fibers in the colorful activities in the transport of glucose The brain of a guinea pig. *Acta Chemistry* 267: 19,785 to 19.791.
- [16] Endo, R. (1991). World demand for PVC-2 Presented at World Chlor-alkali Symposium. The chlor-alkali world. 19: 21<sup>st</sup>
- [17] Enquête Commission zum Schutz des Menschen un der Umwelt (1994). Outlook and criteria Evaluation environmentally friendly material cycles in industrialized societies. *German Bundestag*. 19: 4-10.
- [18] Operating Canada (1992). Separate Lacus harmful to the allies a big impact. *Environment Canada, Fisheries, Oceans and Health Welfare*. 2: 6-15.
- [19] US Environmental NASA EPA (1994a). The proposed standards and guidelines Medical incinerators. *Federal Register* 60: 10654-10691
- [20] US Environmental NASA EPA (1994b). Health assessment document 2,3,7,8 tetrachlorodibenzo-p-dioxin and its related compounds. 3 review federal Draft: 11566-11717. NASA US EPA 21. The latest (1995). Dioxin exposures think quasi their relations. *Review of federal research*. 1: 600-610.

- [21] EPA. Innovative US Environmental Protection (2001). EPA Response to September 11 Attack. Federal environmental review. 1: 2-10.
- [22] EPA. Innovative US Environmental Protection (2006). EPA study dioxin health effects. National Academy of Sciences review. 11: 7-10.
- [23] Lober, M. (2002). Pharmacokinetic originally estimated the exposure to dioxin-like Americans When combined in the past, present and future. Science of the Total Environment 288: 81-95.
- [24] Philip JL (2001) the consequences September 11, 2001 temptation. And Community Disease Prevention recommends 2: 1-14.
- [25] Thornton, J. (1994). Dioxin from cradle to grave I. Green Peace 12: 14-21.
- [26] Thornton, J. (1997). Dioxin from cradle to grave 2. Greenpeace 15: 36-56.
- [27] Who (2001). IARC monographs on the evaluation of carcinogenic risks to humans. WHO
- [28] Internationally bow for Cancer Research Report 69: 338-342.