The following is nothing more than a collection of material from various sources related to Dioxane. My summary from reading all this material is as follows:

1,4-Dioazane is a reaction from mixing / blending chemicals (much like mixing backing soda and vinegar) as it causes a reaction and the Dioaxane is the output result. 1,4-Dioazane has been around for a long time. It can be removed from drinking water but it’s expensive. There is no process to remove it from other products once they are in the hands of the consumer. We now know it’s probably will cause cancer over the long term if you come in contact with it enough of the chemical. The best solution is to have it removed from the product like soaps that are used to clean your cloths because the sewage plants cannot clean this chemical and your Cesspools will only leach into the Aquifers drinking water. Testing for the presence in drinking water should be monitored but putting in technology cleaning machines after the contamination is very costly in excess of $700,000 per solution. That's money that will be taken from your hard earned tax dollars. Best advice is to read the labels on all products you buy and try and buy all natural products if you can.
Summary Information

https://www.youtube.com/watch?v=elyN6VTEuyk
https://www.youtube.com/watch?v=WUpcpWb0n7o
https://www.youtube.com/watch?v=t7qe4zfhDLy

1,4-dioxane, a carcinogen linked to organ toxicity, may be found in as many as 22 percent of the more than 25,000 cosmetics products. 1,4-dioxane is not listed on ingredient labels. 1,4-dioxane is a contaminant created when common ingredients react to form the compound when mixed together. PubChem CID: 31275  Chemical Names: 1,4-DIOXANE; P-Dioxane; Dioxane; 123-91-1; Diethylene ether; Dioxan  More...
Molecular Formula: C₄H₈O₂  Molecular Weight:  88.106 g/mol 1,4-Dioxane - CAS # 123-91-1

Sometimes simply known as dioxane, 1,4-dioxane is a colorless, flammable liquid often used as a solvent or solvent stabilizer. It is a synthetic organic compound, meaning it does not occur naturally in the environment. Dioxane is used as a solvent, cleaning agent, chemical stabilizer, surface coating, adhesive agent, and an ingredient in chemical manufacture. Historically, dioxane was used as a stabilizer in chlorinated solvents, mainly for 1,1,1-trichloroethane (TCA). Currently, dioxane is also used as a solvent or solvent stabilizer in the manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics, shampoos and other products.

People can come into contact with dioxane through the use of cosmetics, shampoos, detergents and other consumer products with dioxane in them. Where solvents -- particularly TCA -- have polluted a groundwater aquifer or a surface water supply, consumers can be exposed to dioxane through the water they consume or through bathing and showering. Dioxane is transported in groundwater from a source of contamination more quickly than other solvents, so it may be present when other solvents are not.

The U.S. Environmental Protection Agency currently identifies dioxane as “likely to be carcinogenic to humans.” This finding is based primarily on toxicology studies conducted using rodents. EPA’s most recent analysis, completed in 2010, concluded that at a concentration of 0.35 parts per billion (ppb) over a lifetime exposure dioxane may lead to negative health effects.

As part of its recent Third Unregulated Contaminant Monitoring Rule testing, EPA is examining how prevalent dioxane is in U.S. drinking water supplies and at what level it occurs. Under the recent round of UCMR3 testing, many water systems nationwide tested for dioxane.
Contact your public water system to learn more about dioxane testing and results. If your water system observes dioxane in its testing, it will publish the results in its next annual consumer confidence report, which is publicly available. The report is often available on the internet, but you can also contact your water provider to request a copy. You can usually find contact information for your public water system on your water bill.

The federal drinking water standard for dioxane has not been established. EPA maintains an active program called the Contaminant Candidate List to identify contaminants in public drinking water that warrant detailed study. The third Contaminant Candidate List, CCL3, finalized on Sept. 22, 2009, includes 1,4-dioxane.

If there is scientifically compelling evidence that shows a large number of U.S. drinking water systems have high amounts of dioxane, it’s possible that they may decide to regulate dioxane in the future. Before regulating a contaminant, EPA considers projected adverse health effects from the contaminant, the extent of occurrence of the contaminant in drinking water, and whether regulation of the contaminant would present a meaningful opportunity for reducing risks to health.

If you get your drinking water from a private well, you should have your water tested by a certified laboratory at least once a year. You can find information on how to sample for dioxane and where to send samples for analysis by contacting your state water laboratory certification officer. Contact information for your state can be found on EPA’s drinking water lab certification page. Additional information about well water testing from EPA is available on their private drinking water well FAQ page.

If you are concerned about dioxane in your drinking water, you may consider purchasing a home treatment device. However, in order to make a well-informed and cost-effective decision, consider:

Checking with your water system or consumer confidence report to learn about the amount of dioxane in your water.

Identifying a device that has been independently certified to remove dioxane.

NSF International, the Water Quality Association, Underwriters Laboratories and CSA International all certify home treatment products for removal of contaminants. The relevant dioxane removal standard is NSF/ANSI Standard 53. If you choose to use a home treatment device, it is very important to follow the manufacturer's operation and maintenance instructions carefully in order to make sure the device works properly.

Bottled water quality can vary. Bottled water in the United States is regulated by the U.S. Food and Drug Administration and is required to meet standards equal to the
EPA’s tap water standards. There are also individual state standards. However, in most cases, you must contact the bottled water manufacturer for information about dioxane levels.

Scientists, toxicologists and water officials stress that detecting a compound may not mean there is a health risk. One part per billion is equal to a drop in an Olympic-size swimming pool.

Removal involves a process known as advanced oxidation to remove the chemical. It relies on ultraviolet light and hydrogen peroxide to change the chemical makeup of the contaminant into a byproduct that can be filtered through granular carbon.

Treatment can be costly - Treatment for 1,4-dioxane and many other chemicals can be costly it could cost between $500,000 and $900,000 per site to spending public money to avoid an unclear risk. How does a utility balance that risk when they know there is something there versus the cost of treatment.

EPA’s only requirement on water systems is to put the results of their survey for unregulated contaminants in a water quality report distributed to customers annually.

Neither the EPA nor the state currently regulates the chemical, nor are there any standards for what is considered a safe level, outside of the EPA’s general reference for any cancer-risk chemical, which is .35 micrograms per liter.

It is difficult to prevent dioxane from reaching groundwater because sewage and septic systems are not designed to filter out the contaminant.

Of the 4,400 water supply systems tested by the EPA nationwide from 2013-14, Long Island’s water systems were among those with the highest levels of dioxane detection in the country. The Citizens Campaign for the Environment wants the state government to enforce a law where dioxane cannot exceed the EPA’s cancer risk guideline for any chemical. The organization said it will release an extensive report containing the EPA’s test results next month.

1,4-Dioxane is a heterocyclic organic compound, classified as an ether. It is a colorless liquid with a faint sweet odor similar to that of diethyl ether. The compound is often called simply dioxane because the other dioxane isomers (1,2- and 1,3-) are rarely encountered.

Dioxane is used as a solvent for a variety of practical applications as well as in the laboratory, and also as a stabilizer for the transport of chlorinated hydrocarbons in aluminum containers.[3]

Dioxane has an LD50 of 5170 mg/kg in rats.,[4] This compound is irritating to the eyes and respiratory tract. Exposure may cause damage to the central nervous system, liver and kidneys.[11] In a 1978 mortality study conducted on workers exposed to 1,4-Dioxane, the observed number deaths from cancer was not significantly different from
the expected number. Dioxane is classified by the National Toxicology Program as "reasonably anticipated to be a human carcinogen". It is also classified by the IARC as a Group 2B carcinogen: possibly carcinogenic to humans because it is a known carcinogen in other animals. The U.S. Environmental Protection Agency classifies dioxane as a probable human carcinogen (having observed an increased incidence of cancer in controlled animal studies, but not in epidemiological studies of workers using the compound), and a known irritant (with a no-observed-adverse-effects level of 400 milligrams per cubic meter) at concentrations significantly higher than those found in commercial products. Under Proposition 65, dioxane is classified in the U.S. State of California to cause cancer. Animal studies in rats suggest that the greatest health risk is associated with inhalation of vapors in the pure form.

**Explosion hazard**

Like some other ethers, dioxane combines with atmospheric oxygen upon prolonged exposure to air to form potentially explosive peroxides. Distillation of dioxanes concentrates these peroxides increasing the danger.

**Environment**

Dioxane has affected groundwater supplies in several areas. Dioxane at the level of 1 μg/L (~1 ppb) has been detected in many locations in the US. In the State of New Hampshire alone in 2010 it had been found at 67 sites, ranging in concentration from 2 ppb to over 11,000 ppb. Thirty of these sites are solid waste landfills, most of which have been closed for years. It also has low toxicity to aquatic life and can be biodegraded via a number of pathways. The problems are exacerbated since dioxane is highly soluble in water, does not readily bind to soils, and readily leaches to groundwater. It is also resistant to naturally occurring biodegradation processes. Due to these properties, a dioxane plume can be larger (and further downgradient) than the associated solvent plume.

**Cosmetics**

As a byproduct of the ethoxylation process, a route to some ingredients found in cleansing and moisturizing products, dioxane can contaminate cosmetics and personal care products such as deodorants, shampoos, toothpastes and mouthwashes. The ethoxylation process makes the cleansing agents, such as ammonium laureth sulfate and sodium laureth sulfate, less abrasive and offers enhanced foaming characteristics. 1,4-Dioxane is found in small amounts in some cosmetics, a yet unregulated substance used in cosmetics in both China and the U.S.

In 2008, testing sponsored by the U.S. Organic Consumers Association found dioxane in almost half of tested organic personal-care products. Since 1979 the U.S. Food and Drug Administration (FDA) have conducted tests on cosmetic raw materials and finished products for the levels of 1,4-dioxane. 1,4-Dioxane was present in ethoxylated raw ingredients at levels up to 1410 ppm, and at levels up to 279 ppm in off the shelf cosmetic products. Levels of 1,4-dioxane exceeding 85 ppm in children's shampoos indicate that close monitoring of raw materials and finished products is
warranted. While the FDA encourages manufacturers to remove 1,4-dioxane, it is not required by federal law.

**What is 1,4-dioxane?**
1,4-Dioxane is a clear liquid that easily dissolves in water. It is used primarily as a solvent in the manufacture of chemicals and as a laboratory reagent. 1,4-Dioxane is a trace contaminant of some chemicals used in cosmetics, detergents, and shampoos. However, manufacturers now reduce 1,4-dioxane from these chemicals to low levels before these chemicals are made into products used in the home.

**What happens to 1,4-dioxane when it enters the environment?**
- 1,4-Dioxane can be released into the air, water, and soil at places where it is produced or used as a solvent.
- In air, 1,4-dioxane rapidly breaks down into different compounds.
- In water, 1,4-dioxane is stable and does not break down.
- In soil, 1,4-dioxane does not stick to soil particles, so it can move from soil into groundwater.
- Fish and plants will not accumulate 1,4-dioxane in their tissues.

**How might I be exposed to 1,4-dioxane?**
- Breathing air, drinking water, or eating foods that contain 1,4-dioxane. During showering, bathing, or laundering, 1,4-dioxane in tap water may volatilize and you can be exposed to 1,4-dioxane vapors.

**How can 1,4-dioxane affect my health?**
Few studies are available that provide information about the effects of 1,4-dioxane in humans. Exposure to very high levels of 1,4-dioxane can result in liver and kidney damage and death. Eye and nose irritation was reported by people inhaling low levels of 1,4-dioxane vapors for short periods (minutes to hours).

Studies in animals have shown that breathing vapors of 1,4-dioxane affects mainly the nasal cavity, liver, and kidneys. Ingesting 1,4-dioxane or having skin contact with 1,4-dioxane also affects the liver and kidneys.

**How likely is 1,4-dioxane to cause cancer?**
The limited number of studies available does not show whether 1,4-dioxane causes cancer in humans. Laboratory rats that breathed vapors of 1,4-dioxane during most of their lives developed cancer in the abdominal cavity. Laboratory rats and mice that drank water containing 1,4-dioxane during most of their lives developed liver cancer; the rats also developed cancer in the nose. Scientists are debating the degree to which the findings in rats and mice apply to exposure situations commonly encountered by people.

The (DHHS) U.S. Department of Health and Human Services considers 1,4-dioxane as reasonably anticipated to be a human carcinogen.

When cleaning products and detergents are processed using ethoxylation, a cheap technique that lessens the severity of the harsher ingredients, 1,4-dioxane is created. Since it is considered a byproduct of ethylene oxide reacting with other ingredients, 1,4-dioxane is technically considered a contaminant and thus does not have to be included on product labeling. As a result, consumers are largely unaware of its presence in major household products.

For the study, Steinman evaluated 20 different laundry detergents from both conventional and "natural" brands. Evox, an independent, third-party laboratory that is highly respected for its rigorous methods and high standards, conducted all product testing. The results are as follows:

**Conventional brands:**
1. Tide (P&G) – 55 parts per million (ppm)
2. Ivory Snow Gentle (P&G) – 31 ppm
3. Tide Free (P&G) – 29 ppm
4. Purex (Dial Corp.) – 25 ppm
5. Gain 2X Ultra (P&G) – 21 ppm
6. Cheer BrightClean Detergent (P&G) – 20 ppm
7. Era 2X Ultra (P&G) – 14 ppm
8. Arm & Hammer (Church & Dwight Co.) – 5.0 ppm
9. Wisk 2X Ultra (Sun Products Corp.) – 3.9 ppm
10. Woolite Complete Detergent (Reckitt Benckiser) – 1.3 ppm
11. All laundry detergent (Unilever) – 0.6 ppm
12. Dreft powdered detergent (P&G) – non-detectable (ND)

1,4-DIOXANE: The carcinogen 1,4-dioxane contaminates up to 46% of personal care products tested (OCA 2008, EWG 2008). The chemical is an unwanted byproduct of an ingredient processing method called ethoxylation used to reduce the risk of skin irritation for petroleum-based ingredients. Though 1,4-dioxane can easily be removed from products before they are sold, its widespread presence in products indicates that many manufacturers fail to take this simple step.

In 2001, FDA scientists detected the carcinogenic impurity 1,4-dioxane at levels up to 1410 parts per million (ppm) in cosmetic raw materials, and at levels up to 279 ppm in personal care products (Black 2001). Testing data suggested significant cause for concern: 'Levels of 1,4-dioxane in excess of 85 ppm in children's shampoos indicate that continued monitoring of raw materials and finished products is warranted' (Black 2001). The federal agency responsible for the safety of consumer goods, the Consumer Product Safety Commission (CPSC), agreed that the presence of 1,4-dioxane, even as a trace contaminant, is cause for concern (NTP 2005).

The Agency for Toxic Substances and Disease Registry (ATSDR) has found that many products on the market today contain 1,4-dioxane, and some body care products may contain 1,4-dioxane at levels higher than recommended by FDA for other types of products (ATSDR 2007). ATSDR recommends limiting children’s exposure to consumer products that may contain this carcinogenic impurity:

Families wishing to avoid cosmetics containing the ingredients listed above may do so by reviewing the ingredient statement that is required to appear on the outer container label of cosmetics offered for retail sale. Also, families may look for cautionary statements on the labels of foaming detergent bath products with directions for safe use, the need to keep out of the reach of children, or the need for adult supervision. “ATSDR 2007

A consumer can identify products that may contain 1,4-dioxane by scanning ingredient lists for the common ingredients that may contain the impurity, identifiable by the prefix or designations of 'PEG,' 'Polyethylene,' 'Polyethylene glycol' 'Polyoxyethylene,' or (FDA 2007).
The U.S. National Toxicology Program has concluded that 1,4-dioxane is 'reasonably anticipated to be a human carcinogen' based on numerous animal studies (NTP 2005). IARC classifies 1,4-dioxane as 'possibly carcinogenic to humans' (IARC 1999), and the U.S. Environmental Protection Agency (EPA) considers 1,4-dioxane a probable human carcinogen (EPA 2003). Exposures to this impurity are linked to tumors of the liver, gallbladder, nasal cavity, lung, skin, and breast (IARC 1999; NTP 2005). Presence of 1,4-dioxane in cosmetics is of special concern, since it can be absorbed through the skin in toxic amounts.

In a review conducted in 1982, the industry-funded Cosmetic Ingredient Review panel noted that the cosmetic industry was aware of the problem of 1,4-dioxane in cosmetics and was making an effort to reduce or remove the impurity (CIR 2006). But decades later, FDA expresses continuing concerns about 1,4-dioxane, noting its potential to contaminate a wide range of products, and its ready penetration through the skin (FDA 2007). FDA notes that 1,4-dioxane can be removed 'by means of vacuum stripping at the end of the polymerization process without an unreasonable increase in raw material cost' (FDA 2007), but such treatment would be voluntary on the part of industry.

It is clear from an examination of ingredient assessments published by the Cosmetic Ingredient Review that this industry panel routinely approves ingredients in the absence of impurity data. In a review of a large class of ingredients called ceteareths, for example, the panel stressed 'the importance of purification procedures to remove... impurities' noting that '...in the absence of impurities data, the Panel caution[s] that a Ceteareth preparation should not contain 1,4-dioxane or ethylene oxide which are possible oxidation products' (CIR 2006). FDA exhibits the same toothless concern regarding 1,4-dioxane in body care products, refusing to establish purity standards for this carcinogen despite awareness of broad-scale contamination.

Possible impurity in: POLYSORBATE-20 (3,237 products), SODIUM LAURETH SULFATE (2,899 products), PEG-100 STEARATE (2,681 products), POLYSORBATE-60 (1,843 products), CETYL PEG/ PPG-10/ 1 DIMETHICONE (1,708 products), CETEARETH-20 (1,426 products), LAURETH-7 (1,361 products), PEG/ PPG-18/ 18 DIMETHICONE (1,134 products), PEG-40 HYDROGENATED CASTOR OIL (1,096 products), POLYSORBATE-80 (1,048 products), see all ingredients | products

Synonym(s): 1,4-DIETHYLENE DIOXIDE; 1,4-DIOXACYCLOHEXANE; DI (ETHYLENE OXIDE) ; DIETHYLENE DIOXIDE; DIETHYLENE DIOXIDE (OSHA) ; DIETHYLENE ETHER; DIOKAN; DIOKSAN (POLISH) ; DIOSSANO-1,4 (ITALIAN) ; DIOXAAN-1,4 (DUTCH) ; DIOXAN

**Use in Cosmetics**
PEGs (polyethylene glycols) are petroleum-based compounds that are widely used in cosmetics as thickeners, solvents, softeners, and moisture-carriers. PEGs are commonly used as cosmetic cream bases. They are also used in pharmaceuticals as laxatives.

**Health and Environmental Hazards**

Depending on manufacturing processes, PEGs may be contaminated with measurable amounts of ethylene oxide and 1,4-dioxane. i The International Agency for Research on Cancer classifies ethylene oxide as a known human carcinogen and 1,4-dioxane as a possible human carcinogen. Ethylene oxide can also harm the nervous system ii and the California Environmental Protection Agency has classified it as a developmental toxicant based on evidence that it may interfere with human development. iii 1,4-dioxane is also persistent. In other words, it doesn't easily degrade and can remain in the environment long after it is rinsed down the shower drain. 1,4-dioxane can be removed from cosmetics during the manufacturing process by vacuum stripping, but there is no easy way for consumers to know whether products containing PEGs have undergone this process. iv In a study of personal care products marketed as "natural" or "organic" (uncertified), U.S. researchers found 1,4-dioxane as a contaminant in 46 of 100 products analyzed.

While carcinogenic contaminants are the primary concern, PEG compounds themselves show some evidence of genotoxicity vi,vii and if used on broken skin can cause irritation and systemic toxicity. viii The industry panel that reviews the safety of cosmetics ingredients concluded that some PEG compounds are not safe for use on damaged skin (although the assessment generally approved of the use of these chemicals in cosmetics). ix Also, PEG functions as a "penetration enhancer," increasing the permeability of the skin to allow greater absorption of the product — including harmful ingredients. x

**Regulatory Status**

There are no restrictions on the use of parabens in cosmetics in Canada. Ethylene oxide and 1,4-dioxane are prohibited on Health Canada's Cosmetic Ingredient Hotlist. However, when these chemicals are present in a product as a contaminant (i.e., an unintentional ingredient), the Hotlist restriction does not apply. 1,4-dioxane was recently assessed under the government's Chemicals Management Plan, but Health Canada and Environment Canada concluded that the chemical did not meet the legal definition of "toxic" because estimated exposure levels were considered to be lower than those that might constitute a danger to human health. The assessment noted uncertainty in the exposure estimates, "due to the limited information on the presence or concentrations of the substance in consumer products available in Canada." xi
Related Ingredients

Propylene glycol is a related chemical that, like PEGs, functions as a penetration enhancer and can allow harmful ingredients to be absorbed more readily through the skin. It can also cause allergic reactions. Health Canada categorized propylene glycol as a "moderate human health priority" and flagged it future assessment under the government's Chemicals Management Plan.

Other ethoxylates may be contaminated with ethylene oxide and 1,4-dioxane. These ingredients usually have chemical names including the letters "eth" (e.g., polyethylene glycol).
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FOR IMMEDIATE RELEASE
January 13, 2017

For the First Time in 40 Years EPA to Put in Place a Process to Evaluate Chemicals that May Pose Risk

New chemical law requires the agency to look at chemicals that were grandfathered in under old law

WASHINGTON--The Environmental Protection Agency (EPA) is moving swiftly to propose how it will prioritize and evaluate chemicals, given that the final processes must be in place within the first year of the new law’s enactment, or before June 22, 2017.

“After 40 years we can finally address chemicals currently in the marketplace,” said Jim Jones, EPA's Assistant Administrator for the Office of Chemical Safety and Pollution Prevention. “Today’s action will set into motion a process to quickly evaluate chemicals and meet deadlines required under, and essential to, implementing the new law.”

When the Toxic Substances Control Act (TSCA) was enacted in 1976, it grandfathered in thousands of unevaluated chemicals that were in commerce at the time. The old law failed to provide EPA with the tools to evaluate chemicals and to require companies to generate and provide data on chemicals they produced.

EPA is proposing three rules to help administer the new process. They are:

**Inventory rule.** There are currently over 85,000 chemicals on EPA’s Inventory, many of these are no longer actively produced. The rule will require manufacturers, including importers, to notify EPA and the public on the number of chemicals still being produced.

**Prioritization rule.** This will establish how EPA will prioritize chemicals for
evaluation. EPA will use a risk-based screening process and criteria to identify whether a particular chemical is either high or low priority. A chemical designated as high-priority must undergo evaluation. Chemicals designated as low-priority are not required to undergo evaluation.

**Risk Evaluation rule.** This will establish how EPA will evaluate the risk of existing chemicals. The agency will identify steps for the risk evaluation process, including publishing the scope of the assessment. Chemical hazards and exposures will be assessed along with characterizing and determining risks. This rule also outlines how the agency intends to seek public comment on chemical evaluations.

These three rules incorporate comments received from a series of public meetings held in August 2016.

If EPA identifies unreasonable risk in the evaluation, it is required to eliminate that risk through regulations. Under TSCA the agency must have at least 20 ongoing risk evaluations by the end of 2019.

Comments on the proposed rules must be received 60 days after date of publication in the Federal Register. At that time, go to the docket at: [https://www.regulations.gov/](https://www.regulations.gov/) and search for: HQ-OPPT-2016-0426 for the inventory rule; HQ-OPPT-2016-0636 for the prioritization rule; and HQ-OPPT-2016-0654 for the risk evaluation rule.


News Releases from Headquarters Chemical Safety and Pollution Prevention (OCSPP)

Frank R. Lautenberg Chemical Safety for the 21st Century Act


Designation of Ten Chemical Substances for Initial Risk Evaluations
under the Toxic Substances Control Act


As required by the Toxic Substances Control Act (TSCA), as amended by the Frank R. Lautenberg Chemical Safety for the 21st Century Act in June 2016, EPA is publishing an initial list of ten (10) chemical substances that will be the subject of the Agency's chemical risk evaluations to determine whether the chemical substances present an unreasonable risk of injury to health or the environment. The law requires that EPA initiate risk evaluations on 10 chemical substances drawn from the 2014 update of the TSCA Work Plan for Chemical Assessments and that EPA publish this list within 180 days of enactment (i.e., by December 19, 2016). EPA's designation of the first ten chemical substances constitutes the initiation of the risk evaluation process for each of these chemical substances, pursuant to the requirements of TSCA section 6(b)(4). For each chemical substance, within six months from the date of publication of this notice, EPA will issue a scoping document. EPA has also established dockets for each of these chemical substances to document each risk evaluation and to facilitate receipt of information that will be useful to the Agency's risk evaluation.

For Further Information Contact
For technical information contact: Sheila Canavan, Chemical Control Division (Mail Code 7405M), Office of Pollution Prevention and Toxics, Environmental Protection Agency, 1200 Pennsylvania Ave. NW., Washington, DC 20460-0001; telephone number: (202) 566-1978; email address: canavan.sheila@epa.gov.

For general information contact: The TSCA-Hotline, ABVI-Goodwill, 422 South Clinton Ave., Rochester, NY 14620; telephone number: (202) 554-1404; email address: TSCA-Hotline@epa.gov.
EPA Names First Chemicals for Review Under New TSCA Legislation

Agency answers call to move forward on chemical reform, naming asbestos among first to undergo risk evaluation

11/29/2016
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WASHINGTON - Today, EPA is announcing the first ten chemicals it will evaluate for potential risks to human health and the environment under TSCA reform.

“Under the new law, we now have the power to require safety reviews of all chemicals in the marketplace.” said Jim Jones, assistant administrator of the Office of Chemical Safety and Pollution Prevention. “We can ensure the public that we will deliver on the promise to better protect public health and the environment.”

The first ten chemicals to be evaluated are:
1,4-Dioxane
1-Bromopropane
Asbestos
Carbon Tetrachloride
Cyclic Aliphatic Bromide Cluster
Methylene Chloride
N-methylpyrrolidone
Pigment Violet 29
Tetrachloroethylene, also known as perchloroethylene
Trichloroethylene

Toxic Substances Control Act (TSCA) as amended by the Frank R. Launtenberg Chemical Safety for the 21st Century Act, requires EPA to publish this list by December 19, 2016. These chemicals were drawn from EPA’s 2014 TSCA Work Plan, a list of 90 chemicals selected based on their potential for high hazard and exposure as well as other considerations.

When the list is published in the Federal Register it will trigger a statutory deadline to complete risk evaluations for these chemicals within three years. This evaluation will determine whether the chemicals present an unreasonable risk to humans and the environment. If it is determined that a chemical presents an unreasonable risk, EPA must mitigate that risk within two years.

Under the newly amended law, EPA must release a scoping document within six months for each chemical. This will include the hazard(s), exposure(s), conditions of use, and the potentially exposed or susceptible subpopulation(s) the agency plans to consider for the evaluation.
Additional chemicals will be designated for evaluation, and all of the remaining Work Plan chemicals will be reviewed for their potential hazard and exposure. For each risk evaluation that EPA completes, TSCA requires that EPA begin another. By the end of 2019, EPA must have at least 20 chemical risk valuations ongoing at any given time.

Unregulated Contaminant Monitoring Rule (UCMR) Meetings and Materials

https://www.epa.gov/dwucmr

EPA collects data for chemicals and microbes that may be present in drinking water, but are not currently subject to EPA drinking water regulations. Learn about the Unregulated Contaminant Monitoring Rule which The SDWA Amendments of 1996 provide for: Monitoring no more than 30 contaminants every five years. Monitoring large systems and a representative sample of small public water systems serving less than 10,000 people. Stored in the analytical results in a National Contaminant Occurrence Database (NCOD). Occurrence data are collected through UCMR to support the Administrator's determination of whether to regulate particular contaminants in the interest of protecting public health. EPA's selection of contaminants for a particular UCMR cycle is largely based on a review of the Contaminant Candidate List (CCL). The UCMR program was developed in coordination with the CCL. The CCL is a list of contaminants that: Are not regulated by the National Primary Drinking Water Regulations, Are known or anticipated to occur at public water systems, May warrant regulation under the SDWA. EPA pays for the analysis of all samples from systems serving 10,000 or fewer people. EPA coordinates an approval program for laboratories that wish to analyze public water system samples. EPA reviews contaminants that have been evaluated through existing prioritization processes, including previous UCMR contaminants and the CCL. Additional contaminants may be identified based on current research on occurrence and health effect risk factors. Chemicals that are not registered for use in the United States, do not have an analytical reference standard, or do not have an analytical method ready for use are generally removed from consideration. EPA further prioritizes remaining contaminants based on more extensive health effects evaluations, typically performed by the Office of Water’s Office of Science and Technology. The procedures for evaluating health effects were developed to support the ranking of contaminants for future CCLs.
Unregulated Contaminant Monitoring Rule (UCMR) Meetings and Materials

UCMR 4 meetings [https://www.epa.gov/dwucmr](https://www.epa.gov/dwucmr)

UCMR 4 public meeting and webinar for the final rule – April 12, 2017

EPA will host a public meeting and webinar on April 12, 2017 to provide public water systems, state UCMR coordinators, laboratories, and other stakeholders with a comprehensive overview of the UCMR 4 program.

Along with a general introduction to the UCMR program, EPA will address:
Who is subject to UCMR requirements
The contaminants monitored
The monitoring and reporting requirements
The laboratory approval program

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The Third Unregulated Contaminant Monitoring Rule (UCMR 3):
Data Summary, July 2016

EPA uses the Unregulated Contaminant Monitoring Rule (UCMR) program to collect data for contaminants suspected to be present in drinking water, but that do not have health-based standards set under the Safe Drinking Water Act (SDWA). Every five years EPA develops a new list of UCMR contaminants, largely based on the Contaminant Candidate List (CCL). The SDWA Amendments of 1996 provide for:

- Monitoring no more than 30 contaminants per 5-year cycle
- Monitoring only a representative sample of public water systems (PWSs) serving less than or equal to 10,000 people
- Storing analytical results in a National Contaminant Occurrence Database (NCOD)

This dataset represents the eleventh NCOD release of analytical results for UCMR 3. Additional reference material is available to assist with the assessment of the UCMR 3 data.

- EPA’s UCMR 3 website
- Instructions for importing and viewing UCMR 3 results
- Additional information for the UCMR 3 contaminants on the CCL & Regulatory Determination website
Johnson & Johnson Removes Some Chemicals from Baby Shampoo, Other Products

One of the world's largest producers of personal care products, J&J has vowed to remove many chemicals from its baby products.

By Jane Kay, Environmental Health News on May 6, 2013

At a small ceremony in February, Johnson & Johnson executives were handed a scroll of 30,000 signatures from consumers.

But, in an unusual twist, these consumers weren't complaining; they were thanking the company.

One of the world's largest producers of personal care products, Johnson & Johnson has vowed to remove many chemicals from its baby products.

"Smart companies that are marketing to children are in a footrace to phase out chemicals of concern," said Scott Faber of the Environmental Working Group, an environmental group that presented the signatures to the corporation.

The recognition of Johnson & Johnson, known for its baby shampoo, signals a change in corporate America.

Just four years ago, the company had to answer to a round of laboratory testing by the Campaign for Safe Cosmetics, a nonprofit watchdog group. Testing revealed that its gentle, mild baby shampoo contained the carcinogen formaldehyde.

After that blast of publicity, Johnson & Johnson pledged last August to eliminate formaldehyde, parabens, triclosan and phthalates from all baby products. For adult products, it has removed triclosan and phthalates, but will keep using three parabens, and use formaldehyde in exceptional cases where other preservatives wouldn't work, according to the company's new policy.

Driving Johnson & Johnson's initiative is the consumer. In recent years, its customers have been asking questions about chemicals in the products, said Samantha Lucas, a corporate spokeswoman, in an interview from its New Brunswick, N.J., headquarters.

"We've been replying with evidence of the science that ensures safety. Now we have to go beyond science and be responsive to our consumers because it's really about their peace of mind," she said.

In many personal care products and cosmetics, several chemicals on government watch lists have been added typically as preservatives, or fragrances, or stabilizers. In recent years they've come under fire as laboratory studies show tumors, cellular
changes or disruption of healthy development and reproduction. States are beginning to restrict them, particularly in children's products.

“We’ve found agreeable alternatives,” Lucas said. “We’re committed to absolute transparency about what’s in the product, and what’s on the label. We’re very involved in the complete supply chain, including holding our suppliers and our raw materials providers to our high standards.”

For example, their chemists said they reformulated products in a way that would extend shelf life and prevent the growth of bacteria without using preservatives that release the alcohol form of formaldehyde. They also eliminated parabens, which also serve as preservatives, but only in baby products; the company did not answer questions about why parabens remain in its other products.

Johnson & Johnson says it removed DEP, the phthalate most commonly used in fragrance and other cosmetics, and other phthalates from all products, and they announced that their fragrances wouldn't contain animal-derived ingredients, nitromusks and polycyclic musks, tagetes, rose crystal and diacetyl. Triclosan, once added as an anti-bacterial ingredient, also has been eliminated.

One substance, 1,4-dioxane, a solvent linked with cancer, is harder to avoid. It is an unintentional impurity in cosmetics, detergents and shampoos, manufacturers say. Johnson & Johnson claims it has reformulated about 70 percent of its baby products with new formulations that reduce 1,4-dioxane, and has pressured suppliers to reduce the compound in materials while it is searching for technologies that will eliminate it altogether, according to its website.

At this point, Johnson & Johnson won't reveal how it is accomplishing these replacements. "It's too early for us to talk about the specific replacements as we are still in the process of identifying, reformulating and testing now," Lucas said.

Big corporations are beginning to find safer alternatives such as using grapefruit seed extract as a preservative, to reformulate the product using fewer ingredients or to choose different packaging, said Janet Nudelman, cofounder of Campaign for Safe Cosmetics, the group that blew the whistle on Johnson & Johnson and now praises it.

Companies are starting to embrace the concept of avoiding chemicals of concern, she said. "Many of the big multinationals have equated safety with preventing acute reactions such as eye irritation or rash. They weren't thinking about the long-term consequences of reproductive or developmental harm or even cancer."

Disclosure requirements, such as Washington state’s groundbreaking law, can serve as a de facto ban, she said. "Companies would rather quietly reformulate their products than have consumers know there are carcinogens or reproductive toxins in the product."
Pressure on the corporations also comes from some smaller companies that already make organic or toxics-free shampoos, sunscreens, lotions and body washes, such as Aubrey Organics, Avalon Organics, Badger Co., California Baby, Dr. Bronner's, EO Products, Seventh Generation and Weleda.

"The small companies demonstrate to the big cosmetic giants that making safe products is not only possible, but it's also profitable," said Nudelman. "It's what consumers want."

This article originally ran at Environmental Health News, a news source published by Environmental Health Sciences, a nonprofit media company.

http://portwashingtion-news.com/glass-half-empty/

Group warns against toxins in drinking water

A report by the Farmingdale-based Citizens Campaign for the Environment (CCE) reveals elevated levels of a possible carcinogen in water districts throughout Long Island.

Found in various personal-care products, the cancer-causing chemical, 1,4-dioxane, is listed as “likely to be carcinogenic to humans” by the Environmental Protection Agency (EPA). And according to CCE, Long Islander water supplies have the highest levels of 1,4-dioxane in the nation.
In response to the findings, the group has devised an interactive map at www.citizenscampaign.org/campaigns.dioxane.asp so that residents can investigate contamination levels in their local groundwater.

**Port Washington Water District:**

According to the map, Port Washington’s Water District, with 12 wells serving a population of about 34,000 and covers all of Manorhaven, Port Washington, North, Baxter Estates, most of Flower Hill and parts of Plandome Manor, 1,4-dioxane was detected in levels above the EPA’s cancer risk guideline.

“One thing that every Long Islander can do is avoid products containing dioxane,” CCE said in a statement. “While dioxane itself is not listed on the label, it occurs as a byproduct of processing certain ingredients, and those ingredients are often listed.”

Two of the most common at-risk ingredients are “sodium laureth sulfate” and “potassium laureth phosphate.” Other commonly used ingredients associated with 1,4-dioxane contamination include PEG, polyethylene, polyethylene glycol, polyoxyethylene, myreth, oleth, laureth and ceteareth. Other than these, look for any ingredients with “-eth” or “-oxynol” in their names.

Dioxane gets into the water through products that contain it, including laundry detergent, soap, shampoo and body wash, according to CCE’s report. That
report reveals that up to 46 percent of personal-care products contain the chemical, which is not added to consumer goods but rather is an unwanted byproduct of ethoxylation—a process used to reduce skin irritation caused by petroleum-based ingredients. Once in the groundwater and soil, the report stated, it is hard to remove and is known as a “legacy” pollution—pollution left behind from past industrial activities—and is also a source of dioxane contamination.

“While avoiding products in our personal lives is a good first step, we need New York State to act now to prevent further exposure to dioxane through our drinking water,” CCE said. “Right now, there is no federal health-based drinking water standard for dioxane, even though the EPA considers ingestion from drinking water to be the most dangerous route of exposure for dioxane.”

To that end, Senators Kirsten Gillibrand and Chuck Schumer recently announced legislation that would require the EPA to develop a maximum contaminate level for 1,4-dioxane and other hazardous chemicals in public water systems. As 1,4-dioxane is currently unregulated in the Safe Water Drinking Act, this legislation would require the EPA to create safety guidelines and determine legally enforceable standards that apply to water systems.

“We’ve seen very clearly how much damage can happen to our local drinking water supplies when toxic chemicals like PFOA, PFOS, 1,4-dioxane and perchlorate aren’t monitored by the EPA,” said Gillibrand, a member of the Senate Environment and Public Works Committee. “New Yorkers should be able to drink water without having to worry about whether it’s safe. Anything less than that standard is unacceptable.”

In January, Schumer and Gillibrand called on the EPA to prioritize and accelerate the risk evaluation for 1,4-dioxane. Schumer also urged Saint-Gobain Performance Plastics to work proactively with federal and state environmental officials to define and clean up another contamination in Hoosick Falls, NY.
“With the recent incidents of contaminated drinking water in New York, it’s crystal clear that we need a maximum contaminant level set by the EPA for perfluorinated compounds like PFOA/PFOS, 1,4-dioxane and perchlorate,” said Schumer. “I will use every ounce of my clout to work with my colleagues in the Senate and make sure this common sense public health bill to ensure safe drinking water is passed.”

The new facility will employ advanced oxidation technology

“The new facility will employ advanced oxidation technology that uses ultraviolet light and hydrogen peroxide to remove 1,4-dioxane from water. Ultraviolet light activates hydrogen peroxide, which oxidizes 1,4-dioxane to its base elements of water and carbon dioxide. 1,4-Dioxane is removed and the water is then quenched to remove residual hydrogen peroxide by running it through a granular activated carbon filter before it enters the water distribution system. This advanced oxidation process offers the most cost-effective and viable treatment option available.”

https://www.tucsonaz.gov/water/1-4-dioxane

Pre-construction Tucson stated “Preliminary estimates for a facility using advanced oxidation technology to remove 1,4-dioxane are about $15 million in capital costs and approximately $1.3 million per year for operation and maintenance.”


https://youtu.be/h2RuAsTyuIM

https://en.wikipedia.org/wiki/1,4-Dioxane
https://www.epa.gov/dwucmr


http://www.dec.ny.gov/about/603.html
http://www.nj.gov/dep/wms/bears/docs/1,4%20dioxane%20final%20draft%20for%20posting2.pdf
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https://www.epa.gov/newsreleases/epa-names-first-chemicals-review-under-new-tsca-legislation


http://newyork.cbslocal.com/2017/01/10/long-island-chemical-in-water/

https://www.youtube.com/watch?v=elyN6VTExyk

https://www.youtube.com/watch?v=WUpcpWb0n7o
1,4-Dioxane Widespread in Long Island Drinking Water

1,4-Dioxane is an emerging contaminant of concern found in Long Island's groundwater and drinking water. It is a Synthetic Organic Compound (SOC), which is never found in nature. According to CCE's recent evaluation of public water suppliers across Long Island, Nassau and Suffolk water suppliers have reported the highest levels of 1,4-dioxane contamination in the nation. 1,4-Dioxane is listed as "likely to be carcinogenic to humans," with a Lifetime Cancer Risk Guideline for drinking water of 0.35µg/L (micrograms per Liter) by the U.S. EPA. The chemical has been linked to tumors of the liver, kidneys, and nasal cavity. Our interactive map (below) shows the highest detections of 1,4-dioxane in each water district/distribution area across Long Island.

Where Does 1,4-Dioxane Come From?

Legacy Contamination

Originally, 1,4-dioxane was used as an industrial solvent stabilizer and could be found widely in paints, primers, varnishes, degreasers, and inks. Although it has been phased out of use in some of these applications, many still contain it. Groundwater plumes that contain the chemical Trichloroethane (TCA) are very likely to also contain 1,4-dioxane. According to Newsday's database of Long Island Superfund sites, there are at least 50 sites that are known to contain TCA, meaning there is a high probability they also contain 1,4-dioxane. 1,4-Dioxane does not easily degrade or break down in the environment and is highly mobile in soil and groundwater.

The Hidden Carcinogen in Everyday Products

1,4-Dioxane is lurking in everyday products. It occurs as byproduct of a manufacturing process called ethoxylation and is found in many common household products. Approximately 46% of personal care products, including detergents, dishwashing soaps, shampoos, cosmetics, deodorants, and body lotions, contain 1,4-dioxane. 1,4-Dioxane can even be found in baby wipes and baby shampoos. It can also be found in pesticides and packaging materials and remains in the formulation of some paints, solvents, inks, and varnishes. The elevated levels found in many laundry detergents make laundromats a potential point-source of contamination for 1,4-dioxane. Some laundry detergents have been found to have the highest levels of 1,4-dioxane of any consumer products, with levels over 50 parts per million, a concentration equivalent to over 100,000 times the EPA's Cancer Risk Guideline for drinking water.

Since 1,4-dioxane is a manufacturing byproduct, it is not listed on the labels of household products, making it nearly impossible for consumers to make safe, informed choices. Consumers can look for the 'ethoxylated' ingredients, which may indicate the presence of 1,4-dioxane. The names of those ingredients often include "-eth" or "-oxynol" in part of their names, such as "phenoxyethanol." Two of the most common ingredients that are problematic for 1,4-dioxane contamination are "sodium laureth sulfate" and "potassium laureth phosphate". While manufacturers can remove 1,4-dioxane from products simply and cheaply, and the FDA recommends that manufacturers do so, many companies do not take that extra step. The FDA needs to require the removal of this chemical; it should not be a voluntary option.

Here is a more extensive list of commonly used ethoxylated ingredients:

- Anything with "PEG"
- Polyethylene
- Polyethylene glycol
- Polyoxyethylene
- Polysorbate-20
- Polysorbate-60
- Polysorbate-80
- Sodium laureth sulfate
Once down the drain, these products carry 1,4-dioxane directly into our groundwater through over 500,000 septic tanks and cesspools across Long Island. That groundwater eventually either flows outward into our surface waters or downward into our aquifers, which is the sole-source of Long Island’s drinking water.

NY Needs a Drinking Water Standard

Currently there is no federal or state drinking water standard specifically for 1,4-dioxane. In the absence of an established federal drinking water standard, the allowable level in drinking water falls to a default of 50.0 µg/L (or parts per billion), which is grossly inadequate to protect public health.

With no federal guideline in place, and in the face of clear evidence that 1,4-dioxane presents a serious threat to drinking water for all Long Islanders, we must establish a health-based drinking water standard for NY! Email Governor Cuomo and the Commissioner of the NYS Department of Health, and urge them to establish a health-based drinking water standard for 1,4-dioxane, based on the EPA’s Cancer Risk Guideline of 0.35 µg/L.

Treatment Technology on the Verge

The Suffolk County Water Authority is piloting a new system for the removal of 1,4-dioxane from drinking water. Conventional carbon based filtration systems do not adequately remove 1,4-dioxane. This new pilot system utilizes a process known as advanced oxidation. Smaller trials using advanced oxidation have demonstrated success in removing the chemical.


By Rossana Weitekamp

Trace amounts of a chemical classified by the Environmental Protection Agency as “likely to be carcinogenic,” were found in water supplied by dozens of Long Island water districts, according to a study released by the Citizens Campaign for the Environment on Feb. 28.

New York American Water tested at a high of 0.92 parts per billion for the substance, 1,4 dioxane, at its Lynbrook operation, which supplies water to Malverne and parts of West Hempstead, according to the report. At New York American Water’s Merrick operation, the reading was 1.35 parts per billion.

The report also showed that the Water Authority of Western Nassau had the second highest levels of dioxane on Long Island, at 12 parts per billion, with varied levels over a period of three years for all water authorities.

Neither the EPA nor the state currently regulates dioxane in drinking water. The State Department of Health, however, sets the limit for all unregulated chemicals at a maximum
contaminant level of 50 parts per billion — significantly above the EPA’s maximum for any cancer-risk chemical of 0.35 parts per billion.

The CCE report is based on data found in the annual drinking water quality reports from 58 major public water suppliers from 2013 to 2015. Many of the reports included dioxane detection information, and those without it were contacted by the CCE for further information.

Over the course of three years, the Town of Hempstead Water District’s water contained, at times, dioxane levels of 10 parts per billion. Franklin Square Water District’s maximum dioxane level was 1.5 parts per billion.

The origin of the problem

Dioxane gets into the water through products that contain it, including laundry detergent, soap, shampoo and body wash, according to the report. Up to 46 percent of personal-care products contain the chemical, which is not added to consumer goods but rather is an unwanted byproduct of ethoxylation — a process used to reduce skin irritation caused by petroleum-based ingredients. Once in the groundwater and soil, the report stated, it is hard to remove. “Legacy” pollution — pollution left behind from past industrial activities — is also a source of dioxane contamination.

“The public really cannot take too many actions right now other than to avoid products that have 1,4 dioxane, but even that is so difficult to tell because it’s not listed as an ingredient,” Adrienne Esposito, executive director of Citizens Campaign for the Environment, said at a March 1 news conference. “Part of the remedy here is that we’re calling on our U.S. Senate reps and our congressional reps to mandate that the FDA call on these companies to get rid of 1,4 dioxane. They don’t need it, they don’t have to include it, it should be banned.”

Manufacturers can remove dioxane easily and cheaply, the report states, but because the FDA doesn’t mandate it, companies don’t.

The village of Freeport had no detectible dioxane, and Rockville Centre had a maximum of 0.21 — below the EPA guideline.

In a written statement, Carmen Tierno, president of New York American Water, said that water delivered to customers’ homes and businesses meets or surpasses all federal and state health department regulations. “We began testing for 1,4 dioxane at point-of-entry locations at our treatment plants in 2014 as part of the United States Environmental Protection Agency’s Unregulated Contaminates Monitoring Rule #3,” said Tierno. “There is currently no chemical-specific federal or New York state drinking water standard for 1,4 dioxane, however, it is regulated by the New York State Department of Health at a maximum contaminant level of 50 parts per billion.”

Tierno added that the water authority’s highest detection level — 1.35 parts per billion — is far below levels allowed by the state, and the Department of Health’s standard. “New York American Water is also scheduling to collect samples at locations where results are not yet
available,” Tierno said. “We will continue to work with the EPA and NYSDOH on the development of new standards for dioxane in the future.”

In New York state, no action is required if dioxane is detected up to the state’s allowable level for any unregulated contaminant of 50 parts per million. But any levels above the EPA’s guideline of 0.35 parts per million is disturbing, said Maureen Dolan Murphy, CCE’s executive program manager. “When we see levels above the EPA standard on Long Island, it causes great concern,” Murphy said, adding that dioxane is an emerging contaminant, and no formal studies have been directly linked it to any illnesses. According to the EPA, short-term exposure may cause eye, nose and throat irritation; long-term exposure may cause kidney and liver damage.

State Sen. Todd Kaminsky, who last month sponsored legislation requiring the state to review and regulate dioxane, said, “Today’s report highlights the need for swift and aggressive action by New York state to rid our drinking water of unsafe levels of 1,4 dioxane. I’ve spoken with the health commissioner and the Department of Environmental Conservation’s commissioner, and they have assured me that if the federal government will not set a standard within the next three months, they are going to set one themselves.”

Kaminsky added that although no water district on Long Island filters for dioxane, the Suffolk County Water District is doing a pilot program called advanced oxidation that, if successful, could be a blueprint for the rest of Long Island. “If it works, all the water authorities on Long Island will want to use that,” Kaminsky said. According to a recent News 12 story, the Suffolk County Water District reported that dioxane filtration systems could cost anywhere from $500,000 to $750,000 — which would have to be funded by taxpayers.

A copy of the Citizens Campaign for the Environment’s report can be found at www.citizenscampaign.org/campaigns/Dioxane.asp

http://manhassetpress.com/glass-half-empty/

Group warns against toxins in drinking water

A report by the Farmingdale-based Citizens Campaign for the Environment (CCE) reveals elevated levels of a possible carcinogen in water districts throughout Long Island. Found in various personal-care products, the cancer-causing chemical, 1,4-dioxane, is listed as “likely to be carcinogenic to humans” by the Environmental Protection Agency (EPA). And according to CCE, Long Islander water supplies have the highest levels of 1,4-dioxane in the nation.
In response to the findings, the group has devised an interactive map at www.citizenscampaign.org/campaigns.dioxane.asp so that residents can investigate contamination levels in their local groundwater.

According to the map, 1,4-dioxane was detected in levels above the EPA’s cancer risk guideline in the Manhasset-Lakeville Water District (MLWD), which has 14 wells serving a population of about 43,000 in Manhasset, Plandome Heights, Munsey Park, University Gardens, Lake Success, half of Great Neck Plaza, North Hills, Plandome Manor, part of Flower Hill, Manhasset Hills and North New Hyde Park.

Superintendent Paul Schraeder of MLWD stated “The Manhasset-Lakeville Water District’s 2015 Annual Water Quality Report included results for 1,4-Dioxane under detected contaminants for the Unregulated Contaminant Monitoring Rule (UCMR). The current NYSDOH guideline for dioxane in drinking water permits up to 50 parts per billion (ppb) (unspecified organic contaminant). The World Health Organization guideline for dioxane is also 50 ppb.”

Cancer-causing chemical 1,4-dioxane is found in detergents and other products.

“The Manhasset-Lakeville Water District’s detection levels for dioxane were non-detect to 1.4 ppb, with an average of 0.33 ppb. Our Lloyd wells are all non-detect, all other wells are less than 1 ppb with the exception of one (1.4ppb), which the district has re-sampled, even though the result was far below the NYSDOH and WHO guidelines; we await the results. Based on the NYSDOH and WHO guidelines, we believe our supply is safe for human health.”

“One thing that every Long Islander can do is avoid products containing dioxane,” CCE said in a statement. “While dioxane itself is not listed on the label, it occurs as a byproduct of processing certain ingredients, and those ingredients are often listed.”

Two of the most common at-risk ingredients are “sodium laureth sulfate” and “potassium laureth phosphate.” Other commonly used ingredients associated with 1,4-dioxane contamination include PEG, polyethylene, polyethylene glycol, polyoxyethylene, myreth, oleth, laureth and ceteareth. Other than these, look for any ingredients with “-eth” or “-oxynol” in their names.

“The Dioxane in our supply is a degradation by product of Tetrachloroethene and/or Trichloroethene, which are both regulated Volatile Organic Compounds (VOC’s) removed with conventional treatment techniques,” said Schraeder. “Dioxane was used as a stabilizer for these and other VOC’s.”
Dioxane gets into the water through products that contain it, including laundry detergent, soap, shampoo and body wash, according to CCE’s report. That report reveals that up to 46 percent of personal-care products contain the chemical, which is not added to consumer goods but rather is an unwanted byproduct of ethoxylation—a process used to reduce skin irritation caused by petroleum-based ingredients. Once in the groundwater and soil, the report stated, it is hard to remove and known as a “legacy” pollution—pollution left behind from past industrial activities—and is also a source of dioxane contamination.

“Human exposure to dioxane is not limited to water. Personal care products, pharmaceuticals, and food supplies may contain dioxane, and may do so at much higher levels than in our water supply. Inhalation is another exposure route, so showering with products that contain dioxane is also a concern,” said Schraeder. “The federal EPA’s UCMR program for emerging contaminants is the first step for the EPA in the regulating process. To date neither the EPA nor NYSDOH have issued a specific drinking water standard for Dioxane”.

“Presently, conventional treatment methods for VOC’s are ineffective for the removal of Dioxane,” added Schraeder. “There are several pilot programs underway, including one being conducted by the Suffolk County Water Authority, that are using an advanced oxidation process (a chemical reaction) to remove dioxane. We anticipate that, if those programs are successful, the DOH will approve that treatment technology for public water suppliers.”

“While avoiding products in our personal lives is a good first step, we need New York state to act now to prevent further exposure to dioxane through our drinking water,” CCE said. “Right now, there is no federal health-based drinking water standard for dioxane, even though the EPA considers ingestion from drinking water to be the most dangerous route of exposure for dioxane.”

To that end, senators Kirsten Gillibrand and Chuck Schumer recently announced legislation that would require the EPA to develop a maximum contaminate level for 1,4-dioxane and other hazardous chemicals in public water systems. As 1,4-dioxane is currently unregulated in the Safe Water Drinking Act, this legislation would require the EPA to create safety guidelines and determine legally enforceable standards that apply to water systems.

“We’ve seen very clearly how much damage can happen to our local drinking water supplies when toxic chemicals like PFOA, PFOS, 1,4-dioxane, and perchlorate aren’t monitored by the EPA,” said Gillibrand, a member of the Senate Environment and
Public Works Committee. “New Yorkers should be able to drink water without having to worry about whether it’s safe. Anything less than that standard is unacceptable.”

In January, Schumer and Gillibrand called on the EPA to prioritize and accelerate the risk evaluation for 1,4-dioxane. Schumer also urged Saint-Gobain Performance Plastics to work proactively with federal and state environmental officials to define and clean up another contamination in Hoosick Falls, NY.

“With the recent incidents of contaminated drinking water in New York, it’s crystal clear that we need a maximum contaminant level set by the EPA for perfluorinated compounds like PFOA/PFOS, 1,4-dioxane and perchlorate,” said Schumer. “I will use every ounce of my clout to work with my colleagues in the Senate and make sure this common sense public health bill to ensure safe drinking water is passed.”

There is a link to additional information on 1,4 Dioxane on the M-LWD website at www.mlwd.net, which includes the WHO report.

—Elizabeth Johnson contributed to the story.
Reregistration Eligibility Decision (RED): Lauryl Sulfate Salts

D. Regulatory History

Sodium lauryl sulfate was initially registered as a pesticide in the United States in 1948 to Jen Sal Aseptogen, EPA Registration No. 411-7. This initial product registration was later cancelled on October 10, 1989.

The May 10, 1990, Federal Register publication of List D chemicals, Lauryl Sulfate Salts, case 4061, included the active ingredients sodium lauryl sulfate, magnesium lauryl sulfate, ammonium lauryl sulfate and triethanolamine lauryl sulfate. Presently, of those chemicals included in case 4061, only sodium lauryl sulfate is associated with an active product registration.
Sodium lauryl sulfate is a component of many non-pesticidal consumer products currently marketed in the United States. It is listed as a food additive by the Food and Drug Administration (21 CFR 172.822; as food additive). Sodium lauryl sulfate is considered GRAS as set forth in 21 CFR 172.822 (food additive). As an ingredient in pet shampoo it repels fleas and ticks. EPA is not aware of any adverse effects of the active ingredient to humans or the environment in the literature when used in a manner prescribed in product-specific labeling.

Exposures and health risks to people using the product is expected to be relatively low. The potential for dermal and/or inhalation exposure exists; however, based on the available toxicological data, human health risk is not expected to be of concern. Published reports suggest alkyl sulfates have low acute mammalian toxicity and no known chronic effects (ref cite A.D. Little). Since the pesticide will be used on pets, there will be negligible exposure to the environment and to nontarget organisms.

Based on these factors, the Agency does not believe generic data, beyond those data required to satisfy basic characterization of the chemistry (refer to Appendix B), are necessary to determine whether the current registered uses of this active ingredient pose unreasonable risks to people or the environment. Therefore, EPA is not requiring the submission of additional generic data for the active ingredient sodium lauryl sulfate. However, EPA is requiring the submission of product specific data (chemistry, acute toxicity and efficacy).

https://toxnet.nlm.nih.gov/cgi-bin/sis/search/a?dbs+hsdb:@term+@DOCNO+1315

SODIUM LAURYL SULFATE

CASRN: 151-21-3

Human Health Effects:

Toxicity Summary:

IDENTIFICATION AND USE: Sodium lauryl sulfate is a white or cream-colored crystal, flake, or powder with a faint odor. Sodium dodecyl sulfate is used in general as a detergent, dispersant, and surfactant. Pure sodium dodecyl sulfate is used mainly in dentifrice products (a powder, paste, or liquid for cleaning the teeth), in hair shampoos, and in emulsion polymerization. The rest is either used in special cosmetic formulations, e.g. for bubble baths and hair bleaches, or as a fine chemical, e.g. as denaturing agent in gel electrophoresis. Besides pure sodium dodecyl sulfate detergent, manufacturers usually produce "technical grade" sodium dodecyl sulfate, a product that consists of approximately 70 % sodium dodecyl sulfate and 30 % sodium tetradecyl sulfate. This product is generally called sodium lauryl sulfate. Technical grade sodium dodecyl sulfate is used as a detergent in dish-washing products (main use), as additive for
plastics and latices, and in paints and lacquers. Sodium lauryl sulfate is used as a flea and tick repellant in one registered pesticide product—a flea and tick shampoo for cats and dogs. Sodium lauryl sulfate also is a widely used component of many nonpesticidal consumer products currently marketed in the United States, including shampoos and fruit juices. It is also used in hydraulic fracturing to prevent the formation of emulsions in the fracture fluid. HUMAN EXPOSURE AND TOXICITY: Among 242 patients suffering from eczematous dermatitis, the percentage of allergic reactions reached 54.6%. A great number of allergic reactions to sodium lauryl sulfate (6.4%) was observed. The study was conducted to compare the effects of sodium lauryl sulfate (SLS)-free and SLS-containing dentifrice (a powder, paste, or liquid for cleaning the teeth) in patients with recurrent aphthous stomatitis (RAS). Although SLS-free products did not reduce the number of ulcers and episodes, it affected the ulcer-healing process and reduces pain in daily lives in patients with RAS. ANIMAL STUDIES: The repeated dose toxicity of sodium dodecyl sulphate was studied extensively. Tests range from sub-acute (28 days) to chronic (2 years in rat) studies. Further, the substance was tested in two different species (rat and dog) and by means of two different routes of administration (diet and gavage). The primary effect of sodium dodecyl sulphate in animals is a local irritation of the gastro-intestinal tract. Developmental toxicity/teratogenicity of sodium dodecyl sulphate was investigated in three different species. Mice and rabbits are the most sensitive species. Sodium dodecyl sulphate was extensively tested for genetic toxicity. Neither the bacterial tests nor the various tests in mammalian systems (in vitro and in vivo) have shown any indication of genotoxicity with or without metabolic activation. Published reports suggest that sodium lauryl sulfate has low acute mammalian toxicity and no known chronic effects. ECOTOXICITY STUDIES: Uptake, tissue distribution, and elimination of lauryl sulfate were investigated in carp. The chemical concentrated in hepatopancreas and gallbladder. Maximum whole-body levels were reached during 24-72 hr. Survival time decreased with increased water hardness. Sodium lauryl sulfate has been tested as a repellent against several species of sharks. It did not provoke a repellency response at a low enough concentration to function effectively as a classical, surrounding-cloud type, repellent. The range of potency, however, does allow it to be used as a directional repellent.

**PEER REVIEWED**

Human Toxicity Excerpts:

/HUMAN EXPOSURE STUDIES/ Objective: To compare the effects of sodium lauryl sulfate (SLS)-free and SLS-containing dentifrice in patient with recurrent aphthous
stomatitis (RAS). Materials and methods: The design of this study was a double-blind crossover trial. The 90 subjects were divided into three groups: group I used SLS-free (a commercially available SLS-free dentifrice) and SLS-A (SLS-free + 1.5% SLS), group II used SLS-A and SLS-B (a commercially available 1.5% SLS-containing dentifrice), and group III used SLS-free and SLS-B. The subjects used one of the two assigned dentifrices for 8 weeks and then the other for the following 8 weeks. The order of the dentifrices used was selected at random, and there was a 2-week washout period between the two phases. The clinical parameters (number of ulcers, number of episodes, duration of ulcers, mean pain score) were compared between the two phases for each group. Results: The number of ulcers and episodes did not differ significantly between SLS-A, SLS-B, and SLS-free. Only duration of ulcers and mean pain score was significantly decreased during the period using SLS-free. Conclusion: Although SLS-free did not reduce the number of ulcers and episodes, it affected the ulcer-healing process and reduces pain in daily lives in patients with RAS.

[Shim YJ et al; Oral Diseases 18 (7): 655-660 (2012)] **PEER REVIEWED**

/CASE REPORTS/ Among 242 patients suffering from eczematous dermatitis, the percentage of allergic reactions reached 54.6%. Great number of allergic reactions to sodium lauryl sulfate (6.4%) was observed.

[BLONDEEL A ET AL; CONTACT DERMATITIS 4(5) 270 (1978)] **PEER REVIEWED**

Human Toxicity Values:

... probable oral lethal dose (human) 0.5-5 g/kg, between 1 oz & 1 pint (or 1 lb) for 70 kg person (150 lb). /Alkyl sodium sulfates/


Skin, Eye and Respiratory Irritations:

A human skin irritant. An experimental eye and severe skin irritant.

Probable Routes of Human Exposure:

According to the 2006 TSCA Inventory Update Reporting data, the number of persons reasonably likely to be exposed in the industrial manufacturing, processing, and use of sodium lauryl sulfate is 1000 or greater; the data may be greatly underestimated(1).


NIOSH (NOES Survey 1981-1983) has statistically estimated that 886,968 workers (415,360 of these were female) were potentially exposed to sodium lauryl sulfate in the US(1). Occupational exposure to sodium lauryl sulfate may occur through inhalation and dermal contact with this compound at workplaces where sodium lauryl sulfate is produced or used. Use data indicate that the general population may be exposed to sodium lauryl sulfate via ingestion of and dermal contact with consumer products containing sodium lauryl sulfate(SRC).


Reported Fatal Dose:

3. 3= Moderately toxic: probable oral lethal dose (human) 0.5-5 g/kg, between 1 oz & 1 pint (or 1 lb) for 70 kg person (150 lb). /Alkyl sodium sulfates/


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[(1) NIOSH; NOES. National Occupational Exposure Survey conducted from 1981-1983. Estimated numbers of employees potentially exposed to specific agents by 2-digit

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New York State wants to require manufacturers of cleaning products to disclose all ingredients and trace contaminants added during processing if the compounds are considered threats to public health or the environment. The draft change to a state regulation covers the probable carcinogen 1,4-dioxane, which has been found in trace amounts in Long Island’s aquifers, and thousands more chemicals listed as eye and skin irritants, endocrine disrupters, carcinogens, asthma inducers or neurotoxins. It also applies to chemicals that deplete the ozone layer or are considered aquatic toxins. Gov. Andrew M. Cuomo’s office announced the regulation yesterday. It applies to soaps and detergents used to clean fabrics, dishes, food and utensils in homes and businesses. Fragrances added to cleaning products also must be disclosed.

It does not apply to personal care items like toothpaste and shampoo, according to a proposed disclosure form. The state is accepting comments on the disclosure form until June 14, and the requirement will take effect six months after the final form is published. The draft form can be found at [www.dec.ny.gov](http://www.dec.ny.gov). Department of Health Commissioner Howard Zucker said in a news release yesterday that the regulation “will give New York consumers the tools they need to make informed choices for themselves and for their families, and limit unknown exposure to potentially harmful chemicals.” The regulation will require manufacturers to post ingredients on their websites. Unintentionally added compounds in trace amounts must be disclosed if they appear on one of 16 state, national and international lists of chemicals of concern, state Department of Environmental Conservation officials said.
Brian Sansoni, spokesman for the Washington D.C.-based American Cleaning Institute, said the cleaning-products industry was reviewing the regulation. The institute maintains a public cleaning product ingredient safety database. In an email, the organization said its database “provides a striking counterweight to the urban myths that there are no data available on common cleaning product ingredients.” That database, however, does not include incidental ingredients, which can be byproducts of manufacturing. The state also is working with the Interstate Chemicals Clearinghouse in Boston to develop a database of ingredient information. “We do know that cleaning products can trigger a variety of health conditions,” said Terri Goldberg, executive director of the Northeast WasteManagement Officials’ Association, which oversees the clearinghouse.

The regulation also will help discern if manufacturers are living up to safety and environment-friendly claims, Goldberg said. “This is about disclosure and empowering consumers,” said state Sen. Todd Kaminsky (D-Long Beach), who has filed a bill to ban the sale of cosmetic and cleaning products with 1,4-dioxane in New York, and require the state to set a safe drinking water standard for the chemical. The man-made chemical is not regulated under safe drinking water standards set by the Environmental Protection Agency, but Cuomo has asked the agency to set a limit. Sen. Chuck Schumer (D-N.Y.) has filed a petition with the U.S. Food and Drug Administration to require manufacturers remove 1,4-dioxane from personal care products. Used as a solvent in manufacturing, 1,4-dioxane also is found in cleaning and personal care products, typically as a byproduct. The regulation could be extended at a later date to include personal care and children’s products, Cuomo’s office said. His office also said the state plans to propose new restrictions on dry cleaning chemicals, such as the probable carcinogen perchloroethylene.

New York Becomes First State in the Nation to Require Manufacturers to Disclose Chemical Ingredients in Cleaning Products

New Proposed Restrictions Will Reduce the Amount of Perchloroethylene and Other Dry Cleaning Chemicals Released into the Environment

Announcement Coincides with Earth Week and Supports New York’s Commitment to Protecting the Environment

Governor Andrew M. Cuomo today announced the launch of a new initiative to require all manufacturers of household cleaning products sold in New York to disclose chemical ingredients on their websites. New York is the first state in the nation to require manufacturers to disclose ingredients in household cleaning products, which may contain chemicals with negative health impacts for humans and the environment. Additionally, the state Department of Environmental Conservation has proposed new restrictions that would reduce the amount of perchloroethylene, a chemical that is a likely human carcinogen and is widely used in dry-cleaning, and other potentially dangerous dry cleaning solvents that are released into the environment. The announcements coincide with Earth Week, a weeklong celebration of New York's commitment and accomplishments to protect our environment.

"These new regulations will help protect New Yorkers and give
them the peace of mind of knowing what’s in their homes and in their communities," Governor Cuomo said. "These actions continues this state’s legacy of environmental stewardship and will help build a cleaner, greener New York for all."

The Household Cleaning Product Information Disclosure Program, overseen by DEC, was announced during the Governor’s 2017 State of the State address. Under the program, manufacturers must identify all of the ingredients and impurities in their products, including those that are chemicals of concern, as well as their content by weight in ranges.

In addition to this information appearing on company websites, New York will work with the Interstate Chemicals Clearinghouse to develop and maintain a database of links to company information. The draft 2017 Household Cleansing Product Information Disclosure Certification Form that manufacturers are required to complete and file is now available for public review and comment.

The Governor also announced new regulations to reduce the release of perchloroethylene, or "perc," and/or alternative solvents used by dry cleaners into the environment, and align state and federal regulations. The National Academy of Sciences identifies perc a "likely human carcinogen."

DEC is proposing to update state’s current "Perchloroethylene Dry Cleaning Facilities" regulation for facilities that operate perc and/or alternative solvent dry cleaning machines, and reduce the amount of perc and other dry cleaning solvents released into the environment. Alternative solvent dry cleaning machines were previously regulated separately.
DEC Commissioner Basil Seggos said, "Protecting the public and the environment from chemical contamination is the state’s top priority and Governor Cuomo is continuing to lead the nation by establishing these strong new regulations. By requiring the disclosure of chemical ingredients in household cleaning products and restricting the release of perc and other dry cleaning solvents into the environment, these programs will reduce contamination and human exposure to these chemicals of concern, and we strongly urge all companies to comply with these new programs."

New York State Health Commissioner Dr. Howard Zucker said, "Common household cleaners may contain chemicals shown to negatively impact health, and Governor Cuomo’s landmark new regulation ensures there is no guessing game about the chemicals hiding on store shelves. This new regulation will give New York consumers the tools they need to make informed choices for themselves and for their families, and limit unknown exposure to potentially harmful chemicals."

Major changes to the dry cleaning industry have taken place since DEC’s dry cleaning regulation went into effect in 1997. As a result, many of the requirements on the books have become outdated and are in need of revision. This rulemaking will revise the existing regulation and add new components to improve compliance and program delivery; reduce perc and alternative solvent emissions to the environment; address advancements in technology and changes in the industry regarding the use of alternative dry cleaning solvents; and bring New York’s regulation up to date with current federal requirements. This proposal applies to any entity that operates, or proposes to operate, approved alternate solvent or perc dry cleaning machines.
Seven general categories of information are required to be disclosed under the Housing Cleansing Product Information Disclosure program, including a product’s name, the level of information being disclosed about the product, the chemical ingredients in the product, and whether any ingredient appears on lists of chemicals of concern. In cases where information is withheld as confidential business information, the nature of the information being withheld must be disclosed, but such information shall not be submitted to DEC.

Copies of the Draft 2017 Household Cleaning Product Information Disclosure Certification Form are available on DEC’s website at http://www.dec.ny.gov/chemical/109021.html. Copies of the form can also be obtained by contacting DEC - Executive, by mail at 625 Broadway, 14th Floor, Albany, NY 12233-1010, or by phone at: (518) 402-9401. Public comment on the form will be accepted through June 14, 2017, and should be mailed to Elizabeth Meer at the above address, or e-mailed to productdisclosure@dec.ny.gov.

New York’s ingredient disclosure approach will serve as a pilot for potential expansion to other consumer products of concern, such as personal care or children’s products. The pilot will evaluate such factors as ease of consumer use, consumer education regarding chemicals and health risks, and manufacturer compliance and enforcement.

http://www.dec.ny.gov/chemical/109021.html
Household Cleansing Product Ingredient Disclosure Program

New York State has launched a new initiative to require the public disclosure of chemical ingredients in household cleaning products.

Authority for the New York State Department of Environmental Conservation's Household Cleansing Product Information Disclosure Program derives from Environmental Conservation Law (ECL) Article 35 and New York Code of Rules and Regulations (NYCRR) Part 659. The statute and regulations authorize the Commissioner of the Department of Environmental Conservation to require manufacturers of domestic and commercial cleaning products distributed, sold, or offered for sale in New York State to furnish information regarding such products in a form prescribed by the Commissioner.

A draft of the 2017 Household Cleansing Product Information Disclosure Program Certification Form and Guidance Document in which disclosure will be required has been released for public comment. Under the program, manufacturers of cleaning products sold in the State of New York are required to disclose the ingredients of their products on their websites and identify any ingredients that appear on authoritative lists of chemicals of concern. Public comment on the form and guidance will be accepted through June 14, 2017.

The Draft 2017 Household Cleansing Product Information Disclosure Certification Form and Guidance Document (PDF, 195 KB) is available here for download. Copies of the form and guidance can also be obtained by contacting Elizabeth Meer, NYS DEC - Executive Division by mail at 625 Broadway, 14th Floor, Albany, NY 12233-1010, or by phone at (518) 402-9401. An electronic version of these documents can also be requested by an e-mail to productdisclosure@dec.ny.gov.
Pursuant to ECL §35-0103 and 6 NYCRR §659.1, cleansing products covered by the program include but are not limited to “soaps and detergents containing a surfactant as a wetting or dirt emulsifying agent and used primarily for domestic or commercial cleaning purposes, including but not limited to the cleansing of fabrics, dishes, food utensils and household and commercial premises.” The program does not cover “foods, drugs and cosmetics, including personal care items such as toothpaste, shampoo and hand soap;” “products labeled, advertised, marketed and distributed for use primarily as pesticides, as defined in Article 33 of the Environmental Conservation Law;” or “cleansing products used primarily in industrial manufacturing, production and assembling processes.”

AOEC Asthmagen List. A chemical designated as an asthma causing agent by the Association of Occupational and Environmental Clinics (AOEC).

• ATSDR Neurotoxicant List. A chemical identified by the Agency for Toxic Substances and Disease Registry as a neurotoxicant and listed in their Toxic Substances Portal under “Health Effects of Toxic Substances and Carcinogens, Nervous System.”

• US EPA Chemical of Concern List. A chemical for which the U.S. Environmental Protection Agency (EPA) has issued a Chemical of Concern Action Plan pursuant to the federal Toxic Substances Control Act (TSCA).

• US EPA PBT Toxin List. A chemical listed as a priority persistent, bioaccumulative toxin (PBT) by EPA.

• US EPA Priority Chemicals List. A chemical listed by EPA as a priority chemical under the National Partnership for Environmental Priorities program, also known as the Waste Minimization Priority Chemical List.
• **US EPA Ozone Depleting List.** A chemical listed by EPA as a Class I, or Class II Ozone-Depleting Substance.

• **EU Endocrine Disruptor List.** A chemical listed by the European Union as a Category 1 chemical on the priority list of chemicals developed by the EU Community Strategy for Endocrine Disruptors.

• **EU Substances of Very High Concern List.** A chemical identified by the European Union as a Substance of Very High Concern as part of Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Annex XIV.

• **IARC Carcinogen List.** A chemical classified as a Group 1, Group 2a or Group 2b carcinogenic agent by the International Agency for Research on Cancer, World Health Organization, in Monographs on the Ev