

## GETTING PERSONAL WITH CHEMICALS

A Consumer Guide to 10 Common Personal Care Products Containing Chemicals of Concern



#### Getting Personal with Chemicals:

A Consumer Guide to 10 Popular Personal Care Products Containing Toxic Chemicals

MASSPIRG Education Fund

Written by:

Dev Gowda and Carli Jensen, U.S. PIRG Education Fund

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The authors bear responsibility for any factual errors. Policy recommendations are those of MASSPIRG Education Fund. The views expressed in this guide are those of the authors and do not necessarily reflect the views of our funders or those who provided review.

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Cover: Anna Low-Beer

## **INTRODUCTION**

We should be able to trust that the products we buy are safe — especially the ones our families use every day, directly on our bodies.

However, we looked into common ingredients in popular personal care products, and found that when we use these products, like shampoo, baby wipes, deodorant, shaving gel, or perfume, we are often dosing our bodies with chemicals that can disrupt our hormones, cause developmental problems, cause cancer, and more.

Most people are troubled when they learn that manufacturers can put almost anything they want in the personal care products that we use on our bodies every day. The Food and Drug Administration (FDA) does not have the power to require safety testing or approval before these products hit store shelves, so manufacturers have the responsibility to make sure these products are safe.

Consumers are increasingly demanding safe, non-toxic products, and MASSPIRG Education Fund is working to convince personal care product manufacturers to remove toxic chemicals from their products, and to disclose the chemical ingredients they use to create fragrances in their products, which are currently kept secret.

This consumer guide describes the results of our investigation of 10 popular personal care products that contain chemicals of concern. Chemicals of concern are chemicals linked to negative health effects by peer-reviewed studies or government research. The fact that personal care products contain chemicals of concern does not necessarily mean they violate the law. This consumer guide also describes 10 safer alternative products that do not contain these chemicals of concern.

We can't definitively say that any particular product is 100% safe for all users. We chose to highlight the safer products because they are formulated without major chemicals of concern that are found in many personal care products. Of course, in addition to the toxic concerns that we are raising, it's possible for people to be allergic to particular ingredients, or have other kinds of sensitivities depending on genetic or environmental factors. It's best to look for products with low-hazard ingredients, like the ones we highlight on our list.

## **PRODUCTS CONTAINING CHEMICALS OF CONCERN**

## **SHAMPOOS AND CONDITIONERS**

## 1. Garnier Fructis Fortifying Shampoo Damage Eraser (L'Oréal)



#### **Sodium Laureth Sulfate**

This ingredient can be contaminated with 1,4-dioxane,<sup>1</sup> which is a byproduct created in the process of making the ingredient less harsh for the skin. 1,4-dioxane is most often found in products that foam or suds, like shampoo and body wash. The U.S. EPA considers 1,4-dioxane a likely human carcinogen.<sup>2</sup>

#### **Fragrance**

The ingredient "fragrance" or "parfum" refers to a mixture of scent chemicals and ingredients that are not disclosed.<sup>4</sup> According to the International Fragrance Association (IFRA) approximately 3,000 chemicals can be used to make fragrance,<sup>13</sup> some of which are linked to cancer,<sup>5</sup> reproductive and respiratory problems,<sup>6</sup> and allergies.<sup>7</sup>

#### PPG-5-ceteth-20

This ingredient can be contaminated with 1,4-dioxane,<sup>8</sup> which is a byproduct created in the process of making the ingredient less harsh for the skin. 1,4-dioxane is most often found in products that foam or suds, like shampoo and body wash. The U.S. EPA considers 1,4-dioxane a likely human carcinogen.<sup>2</sup>



## 2. Aveda Color Conserve Shampoo (Estée Lauder)



#### **Fragrance**

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#### **PEG Compounds**

This ingredient can be contaminated with 1,4-dioxane,<sup>14</sup> which is a byproduct created in the process of making the ingredient less harsh for the skin. 1,4-dioxane is most often found in products that foam or suds, like shampoo and body wash. The U.S. EPA considers 1,4-dioxane a likely human carcinogen.<sup>2</sup>



## 3. Suave Kids Coconut Smoothers Shampoo + Conditioner (Unilever)



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## **SOAP**

## 4. Dial Gold Antibacterial Bar Soap (Henkel)



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Inactive ingredients: soap (sodium cocoate\*, sodium palm kernelate\*, sodium palmate\*, sodium tallowate\*), water, talc, coconut acid\*, palm acid\*, tallow acid\*, palm kernel acid\*, PEG 6 methyl ether, fragrance, glycerin, sorbitol, sodium chloride, pentasodium pentetate, tetrasodium etidronate, yellow 5, yellow 8, red 4 \*contains one or more of these ingredients

## **M**OISTURIZER

## 5. Neutrogena Oil-Free Moisture-Sensitive Skin (Johnson & Johnson)\*



\* Due to consumer demand, the marketplace has begun to move away from toxic chemicals. Johnson & Johnson has started to respond to consumer demand by removing some chemicals of concern from their products, like removing formaldehydereleasing preservatives from their baby shampoo. We commend them for these changes. However, even leading manufacturers like Johnson & Johnson have much more to do to ensure transparency and safety of all ingredients in their products.

#### **Diazolidinyl Urea**

This is a preservative that can release formaldehyde,<sup>3</sup> which is a known carcinogen.<sup>22</sup>

#### Ethylparaben

This is a preservative that has been linked to hormone disruption.<sup>15, 17</sup>

#### Methylparaben

This is a preservative that has been linked to skin cancer  $^{15}$  and hormone disruption.  $^{15,\,17}$ 

#### Propylparaben

This is a preservative that has been linked to reproductive toxicity<sup>16</sup> and hormone disruption.<sup>15, 17</sup>

#### **PEG Compounds**

This ingredient can be contaminated with 1,4-dioxane,<sup>14</sup> which is a byproduct created in the process of making the ingredient less harsh for the skin. 1,4-dioxane is most often found in products that foam or suds, like shampoo and body wash. The U.S. EPA considers 1,4-dioxane a likely human carcinogen.<sup>2</sup>

Ingredients: Water, Glycerin, Ethylhexyl Palmitate, Dimethicone, Petrolatum, Cyclomethicone, Soybean (Glycine Soja) Sterols, Isopropyl Isostearate, Cetyl Alcohol, PEG-10 Soy Sterol, Glyceryl Stearate, PEG-100 Stearate, C12-15 Alkyl Benzoate, Carbomer, Tetrasodium EDTA, Sodium Hydroxide, Diazolidinyl Urea, Ethylparaben, Methylparaben, Propylparaben.

## **DEODORANT**

## 6. Degree Men Extra Fresh Sport Defense Deodorant (Unilever)



#### Fragrance

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According to the International Fragrance Association (IFRA) approximately 3,000 chemicals can be used to make fragrance,<sup>13</sup> some of which are linked to cancer,<sup>5</sup> reproductive and respiratory problems,<sup>6</sup> and allergies.<sup>7</sup>

INGREDIENTS: DIPROPYLENE GLYCOL, WATER (AQUA), PROPYLENE GLYCOL, SODIUM STEARATE, POLOXAMINE 1307, FRAGRANCE (PARFUM), SIMETHICONE, DISODIUM EDTA, BHT, AMINOMETHYL PROPANOL, GREEN 3 (CI 42053).

## **SHAVING CREAMS**

## 7. Skintimate SkinTherapy Shave Gel Lotionized (Edgewell)



#### **Fragrance**

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#### **Triethanolamine**

We advise that people avoid TEA because it forms a cancer-causing chemical when it interacts with certain other chemicals in a product. This cancer-causing chemical is called nitrosamine, <sup>12</sup> which forms when TEA interacts with chemicals that contain or produce nitrogen. <sup>23</sup> It can be difficult for consumers to know whether TEA will interact with any of the laundry list of other chemicals on the label of a product—not to mention unknown interactions with the hidden chemicals in the ingredient "fragrance" <sup>13</sup>—so it makes the most sense to avoid taking the risk of exposure to TEA.

#### **PEG Compounds**

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INGREDIENTS / INGRÉDIENTS : WATER / EAU, PALMITIC ACID, TRIETHANOLAMINE, SUNFLOWER SEED OIL GLYCERIDE, ISOPENTANE, SORBITOL, STEARIC ACID, ISOBUTANE, LANOLIN ALCOHOL, PVP, TOCOPHERYL ACETATE, PEG-90M, HYDROGENATED VEGETABLE OIL, OLEA EUROPAEA (OLIVE) FRUIT OIL, FRAGRANCE / PARFUM, TITANIUM DIOXIDE, RED 40.



#### **Fragrance**

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INGREDIENTS / INGRÉDIENTS : WATER / EAU, PALMITIC ACID, TRIETHANOLAMINE, SUNFLOWER SEED OIL GLYCERIDE, ISOPENTANE, SORBITOL, STEARIC ACID, ISOBUTANE, PVP, FRAGRANCE / PARFUM, PEG-90M, ALOE BARBADENSIS LEAF JUICE, BLUE 1.

## **BABY WIPES**

## 9. Pampers Baby Fresh Baby Wipes (Procter & Gamble)



#### Fragrance

The ingredient "fragrance" or "parfum" refers to a mixture of scent chemicals and ingredients that are not disclosed.<sup>4</sup> According to the International Fragrance Association (IFRA) approximately 3,000 chemicals can be used to make fragrance,<sup>13</sup> some of which are linked to cancer,<sup>5</sup> reproductive and respiratory problems,<sup>6</sup> and allergies.<sup>7</sup>

#### Phenoxyethanol

Preservative that has been linked to nervous system problems in infants exposed orally, <sup>20</sup> and also allergic reactions, <sup>18</sup> and eczema. <sup>19</sup>

#### **PEG Compounds**

This ingredient can be contaminated with 1,4-dioxane, <sup>14</sup> which is a byproduct created in the process of making the ingredient less harsh for the skin. 1,4-dioxane is most often found in products that foam or suds, like shampoo and body wash. The U.S. EPA considers 1,4-dioxane a likely human carcinogen.<sup>2</sup>



## PERFUME & COLOGNE

A major problem with perfumes and colognes is that the full ingredients are not disclosed at all, and ingredient labels are not mandatory. The Campaign for Safe Cosmetics and the Environmental Working Group did a study on several perfumes and colognes, and found that Calvin Klein ETERNITY for both men and women contained the toxic chemicals diethyl phthalate and galaxolide, 12 even though those chemicals are not listed on the ingredients label.

Below, you will see that some ingredients are listed, but where you see "Parfum/Fragrance," that ingredient is a catch-all for an undisclosed mixture of chemicals used to create a scent.

## 10. Calvin Klein ETERNITY for Women and Men (Coty)



INGREDIENTS: ALCOHOL DENAT., PARFUM/FRAGRANCE, AQUA/WATER/EAU, BENZYL SALICYLATE, BUTYLPHENYL METHYLPROPIONAL, CITRONELLOL, EUGENOL, LINALOOL, ETHYLHEXYL METHOXYCINNAMATE. HYDROXYCITRONELLAL, BENZOPHENONE-3, ETHYLHEXYL SALICYLATE, BUTYLMETHOXYDIBENZOYLMETHANE, HYDROXYISOHEXYL 3-CYCLOHEXENE CARBOXALDEHYDE, GERANIOL, ISOEUGENOL, CINNAMYL ALCOHOL, LIMONENE, BHT, PROPYLENE GLYCOL, BENZYL ALCOHOL, BENZYL BENZOATE, ACRYLATES/OCTYLACRYLAMIDE COPOLYMER, HYDROLYZED JOJOBA ESTERS, FD&C YELLOW NO. 5 (CI 19140), FD&C RED NO. 4 (CI 14700).

#### **Diethyl Phthalate**

Has been linked to reproductive system problems, including sperm damage. 10

#### Galaxolide

Studies indicate that it interferes with both male and female hormones.<sup>9</sup>



INGREDIENTS: ALCOHOL DENAT.,

AQUA/WATER/EAU, PARFUM/FRAGRANCE,
LINALOOL, LIMONENE,ETHYLHEXYL

METHOXYCINNAMATE, CITRONELLOL,
GERANIOL, EVERNIA FURFURACEA
(TREEMOSS) EXTRACT, COUMARIN,
BUTYLPHENYL METHYLPROPIONAL, PROPYLENE
GLYCOL, BUTYL METHOXYDIBENZOYLMETHANE,
ETHYLHEXYL SALICYLATE, BENZYL ALCOHOL,
CITRAL, HYDROXYCITRONELLAL, BHT,
ACRYLATES/OCTYLACRYLAMIDE COPOLYMER,
HYDROLYZED JOJOBA ESTERS,
FD&C YELLOW NO. 5 (CI 19140),
D&C GREEN NO. 5 (CI 15785).

#### **Fragrance**

The ingredient
"fragrance" or "parfum"
refers to a mixture of
scent chemicals and
ingredients that are not
disclosed. According to
the International
Fragrance Association
(IFRA) approximately
3,000 chemicals can be
used to make fragrance, some of which are linked
to cancer, reproductive
and respiratory
problems, and allergies.

## **Safer Alternative Personal Care Products**

Below is a list of alternative personal care products that are formulated without major chemicals of concern found in many personal care products. MASSPIRG Education Fund can't definitively say that any particular product is 100% safe for all users. We chose to highlight these products because they are formulated without major chemicals of concern that are found in many personal care products. Of course, in addition to the toxic concerns that we are raising, it's possible for people to be allergic to particular ingredients, or have other kinds of sensitivities depending on genetic or environmental factors. It's best to look for products with low-hazard ingredients, like the ones we highlight on our list.

## **SHAMPOOS AND CONDITIONERS**

## **Honest Shampoo + Body Wash (Honest Company)**



MOREDIENTS: WATER (AQUA, EAU), COCAMIDOPROPYL HYDROXYSULTAINE, SDUMLAURYLGLUCOSIDES HYDROXYPROPYLSULFONATE, SODIUM METHAL DOOM, TAURATE, LEUCONOSTOC/RADISH ROOT FERMENT FILTRATE, SODIUM CHORDE, SODIUM LAURYL GLUCOSE CARBOXYLATE, LAVANDULA HYBRIDAOIL, LANDULA ANGUSTIFOLIA (LAVENDER) OIL, VANILLIN, CALENDULA OFFICINALIS ROMEREXTRACT\*, CHAMOMILLA RECUTITTA (MATRICARIA) FLOWER EXTRACT\*, ADE BARBADENSIS LEAF JUICE\*, GLYCERIN, HYDROLYZED JOJOBA PROTEIN, DENOPODIUM QUINOA SEED EXTRACT, COCOS NUCIFERA (COCONUT) OIL\*, AURIL GLUCOSIDE, CAPRYLYL GLYCOL, BETAINE, TRIETHYL CITRATE, GUAR MICHOLYZED LA COLONIUM CHLORIDE, COCONUT ACID, SODIUM CITRATE, MAJOL, GAMMA-NONALACTONE, CAPRYLHYDROXAMIC ACID, DISODIUM COLOGUEOSIDE CITRATE, CITRIC ACID.

\*ORGANIC INGREDIENT

# John Masters Organics Zinc & Sage Shampoo with Conditioner Wash (John Masters)



Ingredients: Aloe barbadensis (aloe vera) leaf juice and (water), babassuamidopropyl betaine, decyl glucosis sodum cocoamphodiacetate, glycerin, zinc gluconate soduce (nettle) root extract,\* chamomilla recutita (chamomilla tota (nettle) root extract,\* chamomilla recutita (chamomilla tota (nettle) root extract,\* chamomilla recutita (chamomilla tota (nettle) root extract,\* chamomilla recutita (chamomilla (sage) leaf extract,\* salvia alba (willow) bark extract,\* carica papaya papaya) fruit extract, yucca schidigera (yucca) leaf/rootstata (papaya) fruit extract, yucca schidigera (yucca) leaf-rootstata (papaya)

## **SOAP**

## Tom's of Maine Natural Beauty Bar Sensitive (Colgate-Palmolive)



INGREDIENTS: sodium palmate,\* sodium cocoate or sodium palm kernelate, water, glycerin, sodium gluconate, sodium chloride, *Olea europaea* (olive) fruit oil, *Simmondsia chinensis* (jojoba) seed oil, tocopheryl acetate (vitamin E acetate), *Anthemis nobilis* flower oil \*Rainforest Alliance Certified™

## **MOISTURIZER**

## **Honest Face + Body Lotion (The Honest Company)**

INGREDIENTS: WATER (AQUA, EAU), CAPRYLIC/CAPRIC TRIGLYCERIDE BLYROSPERMUM PARKII (SHEA) BUTTER\*, CETEARYL ALCOHOL, GLYCERIC STEARTE, GLYCERIN, CETEARYL OLIVATE, SORBITAN OLIVATE, LAVANDULA ANGUSTIFOLIA (LAVENDER) OIL, LAVANDULA HYBRIDA (AANDIN) OIL CARTHAMUS TINCTORIUS (SAFFLOWER) SEED OIL\*, OENOTHERA BIBNIS PENING PRIMROSE) OIL\*, OLEA EUROPAEA (OLIVE) FRUIT OIL\*, SIMMONOSI CHIENSIS (JOJOBA) SEED OIL\*, CALENDULA OFFICINALIS FLOWER DITRICT CHMOMILLA RECUTTTA (MATRICARIA) FLOWER EXTRACT\*, ALOE BARBADESS EAF JUICE, TRIETHYL CITRATE, SODIUM NITRATE, GAMMA-NONALACTOIL MALTOL, CAPRYLYL GLYCOL \*ORGANIC INGREDBIS ORGANIC ING



## **DEODORANT**

## **Honest Deodorant – Lavender Vanilla (The Honest Company)**



MEDIENTS: ALCOHOL DENAT\*, WATER/AQUA, HAMANEUS MENANA (WITCH HAZEL) LEAF WATER\*, POLYGLYCERYL-4 OLEUTE, DIUM GLUTAMATE, ALOE BARBADENSIS (ALOE VERA) LEAF MICE, EUCALYPTUS GLOBULUS LEAF OIL\*, VANILLA PLANIFOLIA (TEA TREE) LEAF OIL\*, CITRUS LINON FRUIT OIL\*, SALVIA OFFICINALIS (SAGE) OIL\*, CALENDUA PLANIFOLIA (TEA TREE) LEAF OIL\*, CITRUS LINON FRUIT OIL\*, SALVIA OFFICINALIS (SAGE) OIL\*, CALENDUA PLANIFOLIA (POT MARIGOLD) FLOWER EXTRACT\*, CHAMONILLA GUITTA (MATRICARIA) FLOWER EXTRACT\*, GLYCERIN\*, LAVANDUA GUITTA (MATRICARIA) FLOWER GUITTA (MATRICARIA) GUITTA (MATRICARIA) G

## **SHAVING CREAM**

John Masters Organics Men Eucalyptus & Agave 2-in-1 Face Wash &

**Shave Foam (John Masters)** 





## **BABY WIPES**

## **Seventh Generation Free and Clear Baby Wipes (Seventh Generation)**





## PERFUME & COLOGNE

At this time, we cannot recommend a safer perfume or cologne, because the ingredients in fragrance are not required to be disclosed. This means manufacturers can use any of approximately 3,000 chemicals to create their scents, some of which are linked to cancer, reproductive and respiratory problems, and allergies.

The only way to evaluate whether perfumes and colognes are safe for use is for manufacturers to disclose 100% of the ingredients in their products. Because we don't know what's in these products, we can't say whether they are safe or not.

## **TIPS FOR CONSUMERS**

MASSPIRG Education Fund recommends the following for consumers:

- Check the ingredients list on the products at the store before you buy them and make sure they don't include any of the chemicals of concern in our guide. Be on the lookout for common ingredients that have been linked to negative health effects like parabens, PEG compounds, fragrance, and more.
- If you see chemicals of concern in the ingredients of your favorite products, contact the product company's customer service department and tell them you want them to remove toxic ingredients from their products. You can find the customer service phone number or email on the company's website.
- Consider buying the safer alternative products we list in our guide, and go to <u>www.masspirgedfund.org</u> to see our list of products that contain chemicals of concern, and safer products. This list will be continually updated over time, so you can check back often to see new examples of products to avoid, and safer alternative products.

## **METHODOLOGY**

MASSPIRG Education Fund researchers looked at the ingredients of each product either on the product website or on a retailer's website which lists all the ingredients, then confirmed the ingredients on the product packaging. We then researched each ingredient, first by searching for the ingredient in the Environmental Working Group Skin Deep database, then by reviewing the peer-reviewed and government studies cited for that ingredient.

We chose to highlight in this guide the ingredients we found that have most commonly been linked to negative health effects by peer-reviewed studies or government research. We decided on these products based on our staff's market research, and anecdotal research based on talking to regular consumers about which personal care products they use, and which brands they recognize. This is not an exhaustive list of chemicals of concern, or products that contain chemicals of concern, but rather a sample of common, popular products that consumers can expect to find when they shop at a grocery store, drug store, or on common retailer websites.

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<u>Citation</u>: Black RE, Hurley FJ, and Havery DC. "Occurrence of 1,4-dioxane in cosmetic raw materials and finished cosmetic products." *Int J PharJ AOAC Int*. 84, 3 (May-Jun 2001):666-70, available at http://www.ncbi.nlm.nih.gov/pubmed/11417628.

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<u>Citation</u>: Environmental Protection Agency (2005). 1,4 Dioxane (CASRN 123-91-1). Integrated Risk Information System. Available at

https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance\_nmbr=326. Accessed May 4, 2016.

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<u>Citation</u>: Lv, C., Hou, J., Xie, W., & Cheng, H. (2015). Investigation on formaldehyde release from preservatives in cosmetics. International journal of cosmetic science.

#### 4. Fragrance

<u>Citation</u>: Steinemann AC. "Fragranced Consumer Products and Undisclosed Ingredients." <u>Environmental Impact Assessment Review</u>, 29 (1): 32-38, 2009. Available at <a href="https://www.researchgate.net/publication/222553829\_Fragranced\_Consumer\_Products\_and\_Undisclosed\_Ingredients">https://www.researchgate.net/publication/222553829\_Fragranced\_Consumer\_Products\_and\_Undisclosed\_Ingredients</a>.

#### 5. Fragrance

<u>Citation</u>: National Toxicology Program. Report on Carcinogens, Thirteenth Edition. U.S. Department of Health and Human Services, 2014. Available at http://ntp.niehs.nih.gov/ntp/roc/content/listed substances 508.pdf.

#### 6. Fragrance

<u>Citation</u>: CDC. Acetaldehyde. NIOSH Pocket Guide to Chemical Hazards, 2015. Available at http://www.cdc.gov/niosh/npg/npgd0001.html

See more at: http://www.safecosmetics.org/get-the-facts/chemicals-of-concern/fragrance/#\_edn2

#### 7. Fragrance

<u>Citation</u>: European Commission. Opinion concerning fragrance allergy in consumers. Scientific Committee on Cosmetic Products and Non-Food Products Intended for Consumers, 1999. Available at http://ec.europa.eu/health/ph\_risk/committees/sccp/documents/out98\_en.pdf. - See more at: http://www.safecosmetics.org/get-the-facts/chemicals-of-concern/fragrance/#\_edn15

#### 8. <u>PPG-5-ceteth-20</u>

<u>Citation</u>: Safety Assessment of Alkyl PEG/PPG Ethers as Used in Cosmetics. Cosmetic Ingredient Review. Oct. 4, 2013. Available at http://online.personalcarecouncil.org/ctfa-static/online/lists/cir-pdfs/FR642.pdf.

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11. Not So Sexy: The Health Risks of Certain Chemicals in Fragrance. The Campaign for Safe Cosmetics and Environmental Working Group, pp. 11, May 2010. Available at http://www.ewg.org/sites/default/files/report/SafeCosmetics\_FragranceRpt.pdf.

#### 12. Trieth: nitrosamine leading to cancer

<u>Citation</u>: U.S. EPA. N-Nitrosodimethylamine (CASRN 62-75-9). Intregrated Risk Information System. Available at

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#### 13. Fragrance

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