

**Medications**  
That Increase  
**Sensitivity To Light:**  
A 1990  
Listing

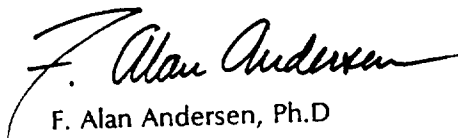
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## PREFACE

The Office of Science and Technology is a major operating component of the Food and Drug Administration's Center for Devices and Radiological Health. The Office conducts laboratory and field research on the human health effects of medical device technologies and radiation. This publication provides a listing of medications and other agents that may increase sensitivity to ultraviolet exposure from either sunlight or artificial light. It is intended to alert both consumers and health professionals to the risk of photosensitization and the need for protective measures.

Igor Cerny, Pharm.D., of the Food and Drug Administration's Center for Drug Evaluation and Research, made a valuable contribution to this publication by performing a comprehensive review of the manuscript.



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The mention of commercial products, their sources, or their use in connection with material reported herein is not to be construed as either an actual or implied endorsement of such products by the Department of Health and Human Services (HHS).

# **MEDICATIONS THAT INCREASE SENSITIVITY TO LIGHT: A 1990 LISTING**

## **INTRODUCTION**

Many medications and other agents contain ingredients that may cause photosensitivity, which is defined as a chemically induced change in the skin that makes an individual unusually sensitive to light. An individual who has been photosensitized may develop a rash, sunburn, or other adverse effect from exposure to light of an intensity or duration that would normally not affect that individual.

Reactions to photosensitizing agents involve both photoallergy (allergic reaction of the skin) and phototoxicity (irritation of the skin) after exposure to ultraviolet radiation from natural sunlight or artificial lighting (particularly from tanning booths). This photosensitization of the skin may be caused by creams or ointments applied to the skin, by medications taken orally or by injection, or by the use of prescription inhalers.

**In addition to an exaggerated skin burn, itching, scaling, rash, or swelling, exposure to ultraviolet light in combination with certain medications may result in:**

**Skin cancer**

**Premature skin aging**

**Skin and eye burns**

**Allergic reactions**

**Cataracts (clouding in the eyes)**

**Reduced immunity**

**Blood vessel damage**

The following list of photosensitizing medications was taken from the current literature. The list is not complete; if you are using a product that is not listed, you should consult your physician or pharmacist for guidance.

Before using the list, you should be aware of the following:

1. NOT all individuals who use or take these medications will experience a photosensitive reaction. Also, an individual who experiences a photosensitive reaction on one occasion will NOT necessarily experience it again or every time.

Most entries in this listing do not indicate how often a photosensitive reaction has been reported. If an entry includes a percentage in the Brand Name column (in bold type and parentheses), this number is the frequency of reaction reported in reference number 2 in the Bibliography.

2. A medication will NOT cause the same degree of skin reaction in all individuals.
3. Brand names of products should be considered only as examples; they do NOT represent all names under which the generic product may be sold.

This listing will require periodic updating as new information becomes available.

# PRIMARY CLASSES OF MEDICATIONS RESPONSIBLE FOR PHOTSENSITIZING REACTIONS

(Examples by Generic Name)

**Note:** If you are using a medication in any of these classes, you should take precautions even if your particular medication is not listed.

## 1. Antihistamines

<b><u>examples:</u></b>	Astemizole	Doxylamine
	Azatadine	Hydroxyzine
	Brompheniramine	Meclizine
	Buclizine	Methapyrilene
	Carbinoxamine	Methdilazine
	Chlorpheniramine	Orphenadrine
	Clemastine	Pheniramine
	Cyclizine	Promethazine
	Cyproheptadine	Pyrilamine
	Dexchlorpheniramine	Terfenadine
	Dimenhydrinate	Trimeprazine
	Diphenhydramine	Tripelennamine
	Diphenylpyraline	Tripolidine

## 2. Coal Tar and Derivatives (examples by brand name)

<b><u>examples:</u></b>	Alphosyl	Ionil T Plus
	Aquatar	LAVATAR
	Denorex Medicated Shampoo	Medotar
	DHS Tar Gel Shampoo	T/Derm Tar Emollient
	DOAK Shampoo	Tegrin Shampoo
	Estar	T/Gel Therapeutic Shampoo
		Zetar Shampoo

3. **Contraceptives, Oral & Estrogens** (birth control pills, female sex hormones)

<b><u>examples:</u></b>	<b><u>Estrogens</u></b>	<b><u>Progestogens</u></b>
	Chlortrianisene	Ethinyl estradiol
	Diethylstilbestrol	Medroxyprogesterone
	Estradiol	Megestrol
	Estrogens, conjugated	Norethindrone
	Estrogens, esterified	Norgestrel
	Estropipate	Quinestrol

4. **NSAID: Non-Steroidal Anti-Inflammatory Drugs** (antiarthritics)

<b><u>examples:</u></b>	Diclofenac	Meclofenamate
	Diflunisal	Naproxen
	Fenoprofen	Phenylbutazone
	Flurbiprofen	Piroxicam
	Ibuprofen	Sulindac
	Indomethacin	Suprofen
	Ketoprofen	Tolmetin

5. **Phenothiazines** (major tranquilizers, anti-emetics)

<b><u>examples:</u></b>	Acetophenazine	Piperacetazine
	Butaperazine	Prochlorperazine
	Carphenazine	Promazine
	Chlorpromazine	Promethazine
	Ethopropazine	Propiomazine
	Fluphenazine	Thiethylperazine
	Mesoridazine	Thioridazine
	Methdilazine	Trifluoperazine
	Methotrimeprazine	Triflupromazine
	Perphenazine	Trimeprazine

6. **Psoralens**

<b><u>examples:</u></b>	Methoxsalen	Trioxsalen
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**7. Sulfonamides ("sulfa" drugs, antimicrobials, anti-infectives)**

<b><u>examples:</u></b>	Acetazolamide	Sulfamethoxazole
	Sulfacytine	Sulfapyridine
	Sulfadiazine	Sulfasalazine
	Sulfadoxine	Sulfinpyrazone
	Sulfamethizole	Sulfisoxazole

**8. Sulfonylureas (oral anti-diabetics, hypoglycemics)**

<b><u>examples:</u></b>	Acetohexamide	Glyburide
	Chlorpropamide	Tolazamide
	Glipizide	Tolbutamide

**9. Thiazide Diuretics ("water-pills")**

<b><u>examples:</u></b>	Bendroflumethiazide	Hydrochlorothiazide
	Benzthiazide	Hydroflumethiazide
	Chlorothiazide	Methyclothiazide
	Chlorthalidone	Polythiazide
	Cyclothiazide	Trichlormethiazide

**10. Tetracyclines (antibiotics, anti-infectives)**

<b><u>examples:</u></b>	Chlortetracycline	Minocycline
	Demeclocycline	Oxytetracycline
	Doxycycline	Tetracycline
	Methacycline	

**11. Tricyclic Antidepressants**

<b><u>examples:</u></b>	Amitriptyline	Imipramine
	Amoxapine	Nortriptyline
	Desipramine	Protriptyline
	Doxepin	Trimipramine

## REPORTED PHOTSENSITIZING MEDICATIONS

<u>Generic Name</u>	<u>Brand Name</u>	<u>Therapeutic Class</u>
Acetazolamide	Diamox	Anticonvulsant Antiglaucoma Diuretic
Amiloride + Hydrochlorothizide	Moduretic	Antihypertensive Thiazide diuretic
Amiodarone	Cordarone (15%)	Antiarrhythmic
Amitriptyline	Elavil	Antidepressant (tricyclic)
"	Endep	Antidepressant (tricyclic)
Amoxapine	Asendin (<1%)	Antidepressant (tricyclic)
Astemizole	Hismanal	Antihistamine
Atenolol + Chlorthalidone	Tenoretic	Beta-adrenergic blocker Thiazide diuretic
Auranofin	Ridaura	Antiarthritic Gold compound
Azatadine	Optimine	Antihistamine
Azatidine + Pseudoephedrine	Trinalin Repetabs	Antihistamine Decongestant
<b>Bendroflumethiazide</b>	Naturetin	Antihypertensive Thiazide diuretic
Benzthiazide	Exna	Antihypertensive Thiazide diuretic
Bromodiphenhydramine	Ambenyl	Antihistamine
Brompheniramine	Dimetane	Antihistamine
<b>Captopril</b>	Capoten	Antihypertensive
Captopril + Hydrochlorothiazide	Capozide	Antihypertensive Thiazide diuretic
Carbamazepine	Tegretol	Analgesic Anticonvulsant

<u>Generic Name</u>	<u>Brand Name</u>	<u>Therapeutic Class</u>
Chlordiazepoxide + Amitriptyline	Limbitrol	Antidepressant (tricyclic) Tranquilizer
Chlorothiazide	Diuril	Antihypertensive Thiazide diuretic
Chlorpheniramine	Chlorpheniramine	Antihistamine
Chlorpheniramine + D-Pseudoephedrine	Deconamine	Antihistamine Decongestant
Chlorpheniramine + Phenylpropanolamine	Ru-Tuss II	Antihistamine Decongestant
Chlorpromazine	Thorazine	Antiemetic Tranquilizer
Chlorpropamide	Diabinese	Antidiabetic (oral) Sulfonylurea
Chlorprothixene	Taractan	Antiemetic Tranquilizer
Chlorthalidone	Hygroton	Antihypertensive Thiazide diuretic
"	Thalitone	Antihypertensive Thiazide diuretic
Chlorthalidone + Reserpine	Demi-Regroton	Antihypertensive Thiazide diuretic
"	Regroton	Antihypertensive Thiazide diuretic
Ciprofloxacin	Cipro (<1%)	Anti-infective
Clemastine	Tavist	Antihistamine
Clofazime	Lamprene (<1%)	Antibacterial Antileprosy agent
Clonidine + Chlorthalidone	Combipres	Antihypertensive Thiazide diuretic
Coal tar	Estar Gel	Antipsoriatic Eczema

<u>Generic Name</u>	<u>Brand Name</u>	<u>Therapeutic Class</u>
Coal Tar	Balnetar	Antipsoriatic Eczema
Contraceptive, oral	Estrogen	Birth control pill Female sex hormone
Cromolyn	Intal Inhaler	Antiasthmatic
Cyclobenzaprine	Flexeril	Anti-skeletal muscle spasms
Cyproheptadine	Periactin	Antihistamine Antiserotonergic
<b>Dacarbazine</b>	DTIC-Dome	Anti-Hodgkin's disease Antimetabolite
Danazol	Danocrine	Gonadotropin inhibitor
Demeclocycline	Declomycin	Antibiotic
Desipramine	Norpramin	Antidepressant (tricyclic)
"	Pertofrane	Antidepressant (tricyclic)
Dexchlorpheniramine	Polaramine	Antihistamine
Diclofenac	Voltaren (<1%)	NSAID,* antiarthritic
Diflunisal	Dolobid (1%)	NSAID,* antiarthritic
Diltiazem	Cardizem (<1%)	Antianginal Antihypertensive Calcium channel blocker
Diphenhydramine	Benadryl	Antihistamine
Diphenylpyraline	Hispril Spansule	Antihistamine
Doxepin	Sinequan	Antidepressant (tricyclic)
Doxycycline	Vibramycin	Antibiotic
Doxycycline Hyclate	Doryx	Antibiotic

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\*Non-Steroidal Anti-Inflammatory Drug

<u>Generic Name</u>	<u>Brand Name</u>	<u>Therapeutic Class</u>
Enalapril	Vasotec	Antihypertensive
Enalapril + Hydrochlorothiazide	Vaseretic	Antihypertensive Thiazide diuretic
Erythromycin Ethylsuccinate + Sulfisoxazole	Pediazole	Antibiotic
Estrogens	Contraceptive, oral	Female sex hormone
"	Estrogens	Female sex hormone
Ethionamide	Trecator-SC	Anti-infective Antituberculosis
Etretinate	Tegison	Antipsoriatic
<b>Floxuridine</b>	FUDR Injectable	Antimetabolite Antineoplastic
Flucytosine	Ancobon	Antifungal
Fluorouracil	Adrucil	Antineoplastic
"	Efudex	Antineoplastic
"	Fluorouracil	Antineoplastic
Fluphenazine	Prolixin	Antipsychotic Tranquilizer
"	Permitil	Antipsychotic Tranquilizer
Flurbiprofen	Ansaid	NSAID,* antiarthritic
Flutamide	Eulexin	Antimetastatic (prostatic carcinoma)
Furosemide	Lasix	Antihypertensive Diuretic

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\*Non-Steroidal Anti-Inflammatory Drug

<u>Generic Name</u>	<u>Brand Name</u>	<u>Therapeutic Class</u>
Gentamicin	Garamycin	Antibiotic
Glipizide	Glucotrol	Antidiabetic (oral) Sulfonylurea
Glyburide	Diabeta	Antidiabetic (oral) Sulfonylurea
"	Micronase	Antidiabetic (oral) Sulfonylurea
Gold Salts (Compounds)	Solganal	Antiarthritic Gold compound
Gold Sodium Thiomalate	Myochrysine	Antiarthritic Gold compound
Griseofulvin	Fulvicin U/F	Antibiotic Antifungal
Griseofulvin Ultramicrosized	Grisactin Ultra	Antibiotic Antifungal
Guanethidine + Hydrochlorothiazide	Esimil	Antihypertensive Thiazide diuretic
<b>Haloperidol</b>	Haldol	Antipsychotic Tranquilizer
Hexachlorophene	PhisoHex	Antibacterial
Hydralazine + Hydrochlorothiazide	Apresazide	Antihypertensive Thiazide diuretic
"	Apresoline-Esidrix	Antihypertensive Thiazide diuretic
Hydrochlorothiazide	Esidrix	Antihypertensive Thiazide diuretic
"	Hydrodiuril	Antihypertensive Thiazide diuretic
"	Oretic	Antihypertensive Thiazide diuretic
Hydrochlorothiazide + Deserpidine	Oreticyl	Antihypertensive Thiazide diuretic

<u>Generic Name</u>	<u>Brand Name</u>	<u>Therapeutic Class</u>
Hydrochlorothiazide + Triamterene	Dyazide	Antihypertensive Thiazide diuretic
"	Maxzide	Antihypertensive Thiazide diuretic
Hydroflumethiazide	Diucardin	Antihypertensive Thiazide diuretic
"	Saluron	Antihypertensive Thiazide diuretic
Hydroflumethiazide + Reserpine	Salutensin / Salutensin-Demi	Antihypertensive Thiazide diuretic
<b>Ibuprofen</b>	Advil (<1%)	NSAID,* antiarthritic
"	Motrin (<1%)	NSAID,* antiarthritic
Imipramine	Tofranil	Antidepressant (tricyclic)
Indapamide	Lozol	Antihypertensive Diuretic
Interferon ALFA-2B	Intron A (<1%)	Antiviral agent
Isocarboxazid	Marplan	Antidepressant MAO inhibitor
Isotretinoin	Accutane	Antiacne
<b>Ketoprofen</b>	Orudis (<1%)	NSAID,* antiarthritic
<b>Labetalol</b>	Normodyne	Antihypertensive Beta- and alpha- adrenergic blocker
Labetalol + Hydrochlorothiazide	Normozide	Beta- and alpha- adrenergic blocker Thiazide diuretic
"	Trandate HCT	Beta- and alpha- adrenergic blocker Thiazide diuretic

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\*Non-Steroidal Anti-Inflammatory Drug

<u>Generic Name</u>	<u>Brand Name</u>	<u>Therapeutic Class</u>
Lisinopril + Hydrochlorothiazide	Prinzide	Antihypertensive Thiazide diuretic
"	Zestoretic	Antihypertensive Thiazide diuretic
Lovastatin	Mevacor	Anticholesterol
<b>Maprotiline</b>	Ludiomil	Antidepressant
Meperidine + Promethazine	Mepergan	Narcotic analgesic
Mesoridazine	Serentil	Antipsychotic Tranquilizer
Methacycline	Randomycin	Antibiotic
Methazolamide	Neptazane	Antiglaucoma
Methdilazine	Tacaryl	Antihistamine Antipruritic
Methotrexate	Folex	Antimetabolite Antipsoriatic
"	Methotrexate	Antimetabolite Antipsoriatic
"	Mexate & Mexate-AQ	Antimetabolite Antipsoriatic
Methyclothiazide	Aquatensen	Antihypertensive Thiazide Diuretic
"	Enduron	Antihypertensive Thiazide diuretic
Methyclothiazide + Deserpidine	Enduronyl	Antihypertensive Thiazide diuretic
Methyclothiazide + Reserpine	Diutensen-R	Antihypertensive Thiazide diuretic
Methyldopa + Hydrochlorothiazide	Aldoril	Antihypertensive Thiazide diuretic
Methyldopa + Chlorothiazide	Aldoclor	Antihypertensive Thiazide diuretic



<u>Generic Name</u>	<u>Brand Name</u>	<u>Therapeutic Class</u>
Metolazone	Diulo	Antihypertensive Thiazide diuretic
"	Mykrox	Antihypertensive Thiazide diuretic
"	Zaroxolyn	Antihypertensive Thiazide diuretic
Metoprolol + Hydrochlorothiazide	Lopressor HCT	Beta-adrenergic blocker Thiazide diuretic
Minocycline	Minocin	Antibiotic
Minoxidol	Rogaine	Hair growth stimulator
<b>Nabilone</b>	Cesamet	Antiemetic Antinausea
Nadolol + Bendroflumethiazide	Corzide	Antihypertensive Beta-adrenergic blocker
Nalidixic Acid	NegGram	Antimicrobial
Naprosyn	Anaprox	NSAID,* antiarthritic
"	Naproxen	NSAID,* antiarthritic
Nifedipine	Adalat	Antianginal Antihypertensive Calcium channel blocker
"	Procardia	Antianginal Antihypertensive Calcium channel blocker
Norfloxacin	Noroxin	Antibacterial
Nortriptyline	Pamelor	Antidepressant (tricyclic)

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\*Non-Steroidal Anti-Inflammatory Drug

<u>Generic Name</u>	<u>Brand Name</u>	<u>Therapeutic Class</u>
Oxytetracycline	Terramycin	Antibiotic
Perphenazine	Trilafon	Antipsychotic Tranquilizer
Perphenazine + Amitriptyline	Etrafon	Antidepressant (tricyclic) Tranquilizer
"	Triavil	Antidepressant (tricyclic) Tranquilizer
Phenylbutazone	Butazolidin	NSAID,* antiarthritic
Phenylpropanolamine + Chlorpheniramine	Ornade Spansule	Antihistamine Decongestant
Phenylpropanolamine + Pheniramine + Pyrilamine	Triaminic TR	Antihistamine Decongestant
Phenytoin	Dilantin	Anticonvulsant
Piroxicam	Feldene	NSAID,* antiarthritic
Polythiazide	Renese	Antihypertensive Thiazide diuretic
Prazosin + Polythiazide	Minizide	Antihypertensive Thiazide diuretic
Prochlorperazine	Compazine	Antinausea Anti-vomiting
Promethazine	Phenergan	Antihistamine
Propranolol + Hydrochlorothiazide	Inderide	Beta-adrenergic blocker Thiazide diuretic
Protriptyline	Vivactil	Antidepressant (tricyclic)
Pyrazinamide	Pyrazinamide	Anti-infective Antituberculosis

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\*Non-Steroidal Anti-Inflammatory Drug

<u>Generic Name</u>	<u>Brand Name</u>	<u>Therapeutic Class</u>
Quinethazone	Hydromox	Antihypertensive Diuretic
Quinidine Gluconate	Quinaglute Dura-Tabs	Antiarrhythmic
Quinidine Sulfate	Quindex Extentabs	Antiarrhythmic
"	Quinora	Antiarrhythmic
Quinine	Quinamm	Antiprotozoal
<b>Rauwolfia Serpentina + Bendroflumethiazide</b>	Rauzide	Antihypertensive Thiazide diuretic
Reserpine + Chlorothiazide	Diupres	Antihypertensive Thiazide diuretic
Reserpine + Hydrochlorothiazide	Hydropres	Antihypertensive Thiazide diuretic
"	Serpasil-Esidrix	Antihypertensive Thiazide diuretic
Reserpine + Hydralazine + Hydrochlorothiazide	Ser-Ap-Es	Antihypertensive Thiazide diuretic
<b>Selegiline</b>	Eldepryl	Anti-Parkinsonism MAO inhibitor
Spiroinolactone + Hydrochlorothiazide	Aldactazide	Antihypertensive Thiazide diuretic
Sulfacytine	Renoquid	Antibiotic
Sulfadoxine + Pyrimethamine	Fansidar	Antimalarial Antiprotozoal
Sulfamethizole + Phenazopyridine	Thiosulfil-A	Urinary analgesic Antibiotic
Sulfamethoxazole	Gantanol	Antibiotic

<u>Generic Name</u>	<u>Brand Name</u>	<u>Therapeutic Class</u>
Sulfamethoxazole + Phenazopyridine	Azo Gantanol	Antibiotic Urinary analgesic
Sulfapyridine	(Generic only)	Dermatitis herpetiformis suppresant
Sulfasalazine	Azulfidine	Bowel anti-inflammatory
Sulfipyrazone	Anturane	Antigout agent Antihyperuricemic
Sulfasoxazole	Gantrisin	Antibiotic
Sulfasoxazole + Phenazopyridine	Azo Gantrisin	Antibiotic Urinary analgesic
Sulfone	Dapsone	Antileprosy Antimalarial
Sulindac	Clinoril (< 1%)	NSAID,* antiarthritic
<b>Terfenadine</b>	Seldane	Antihistamine
Tetracycline	Achromycin	Antibiotic
"	Sumycin	Antibiotic
Thioridazine	Mellaril	Antipsychotic Tranquilizer
Thiothixene	Navane	Antipsychotic Tranquilizer
Timolol + Hydrochlorothiazide	Timolide	Beta-adrenergic blocker Thiazide diuretic
Tolazamide	Tolinase	Antidiabetic (oral) Sulfonylurea
Tolbutamide	Orinase	Antidiabetic (oral) Sulfonylurea

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\*Non-Steroidal Anti-Inflammatory Drug

<u>Generic Name</u>	<u>Brand Name</u>	<u>Therapeutic Class</u>
Tretinoin	Retin-A	Antiacne (topical)
Triamterene	Dyrenium	Antihypertensive Diuretic
Trifluoperazine	Stelazine	Antipsychotic Tranquilizer
Triflupromazine	Vesprin	Antiemetic Antipsychotic
Trimeprazine	Temaril	Antipsychotic Tranquilizer
Trimethoprim	Trimpex	Antibiotic
Trimethoprim + Sulfamethoxazole	Bactrim	Antibiotic
"	Septra	Antibiotic
Trimipramine	Surmontil	Antidepressant (tricyclic)
Tripelennamine	PBZ	Antihistamine
Tripolidine	Actidil	Antihistamine
Tripolidine + Pseudoephedrine	Actifed	Antihistamine Decongestant
<b>Vinblastine</b>	Velban	Antineoplastic

## OTHER PHOTSENSITIZING AGENTS

<u>Classification or Use</u>	<u>Agent</u>
Antifungals	Fentichlor Jadit Multifungin
Antimicrobials, antiseptics	Bithionol Chlorhexidine Hexachlorophene
Artificial sweeteners	Calcium cyclamate Cyclamates Sodium cyclohexyl- sulfamate
Coal tar and coal tar derivatives for psoriasis and chronic eczema and in hair shampoos	Anthracene Many phenolic agents Naphthalene Phenanthrene Pitch Thiophene
Cosmetics and dyes	Acridine Eosin Erythrocine Fluorescein Methylene blue Methyl violet Orange red Paraphenylenediamine Rose bengal Toluidine blue Trypaflavin Trypan blue
Deodorant and bacteriostatic agents in soaps	Halogenated carbanilides Halogenated phenols Halogenated salicylanilides

<u>Classification or Use</u>	<u>Agent</u>
Fluorescent brightening agent for cellulose, nylon, or wool fibers	Blankophor
Melanogenics (furocoumarins)	Methoxypsoralens Petroleum products Psoralen
Perfumes and toilet articles (essential oils)	Ethereal oils Musk Ambrette Oil of Bergamot Oil of Cedar Oil of Citron Oil of Lavender Oil of Lemon Oil of Lime Oil of Rosemary Oil of Sandalwood
Perfumes, flavoring, spices	Rutaceae (plant) Umbelliferae (plant)
Tattoos	Cadmium sulfide

### **Sunscreens with a Reported Photosensitizing Ingredient**

- 6-Acetoxy-2,4,-dimethyl-m-dioxane (preservative in sunscreens)
- Benzophenones (Aramis, Clinique, and others)
- Cinnamates (Aramis, Estee Lauder, and others)
- Oxybenzone (Eclipse, PreSun, and others)
- Paba esters (Eclipse, Block Out, Sea & Ski, and others)
- Para-aminobenzoic acid (PABA-Pabagel, Pabanol, PreSun, and others)

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