



**Occupational  
Dermatology**  
Research and  
Education Centre



SPECIALIST  
TREATMENT  
EDUCATION &  
RESEARCH



**CABA**  
Contact Allergen  
Bank Australia

## **Repeated Open Application Test (ROAT) - Patient Information Leaflet**

### **What is a ROAT?**

A Repeated Open Application Test or ROAT is a simple test that people can do at home to help sort out whether patch test reactions identified in the clinic are relevant to their skin problem. This helps us make an accurate diagnosis.

### **Why do I need to do a ROAT?**

Although patch testing is a very useful method of determining allergy, it is not perfect. Sometimes, patch testing can give unclear results, and we do not know if the reaction is relevant to what products people are actually using.

An example would be when someone reacts to a fragrance (perfume) chemical on patch testing, but we do not know if that particular fragrance is in their product or not. A ROAT can be used to see if an allergic reaction occurs after repeated application of the product to the same area of skin.

A ROAT may also be performed if there is some uncertainty whether a patient's product contains a particular allergen that has been identified on patch testing. A ROAT can be used to see whether a particular product contains enough of the allergen to cause a reaction.

Finally, sometimes a person is sure that a particular product has caused a rash, but patch testing has been negative despite a history very suggestive of allergic contact dermatitis. A ROAT can be used to try to replicate the rash.

### **Which products can be tested?**

A ROAT is generally used for leave-on products such as cosmetics, moisturisers, perfumes and sunscreens. It can be used for wash-off products, but real-life use must be simulated i.e. the product needs to be applied and then washed off. Alternatively, the product can be diluted in water to the strength that we would normally use for patch testing, usually 10%, 5% or 1%.

### **How do I perform a ROAT?**

1. Ensure the area of skin that you are going to apply the product to is free of rash and has not been treated with corticosteroid creams or ointments in recent weeks.
2. Apply a small amount of the product (covering around 5cm by 5cm) to the inner forearm or upper arm just above or below the elbow crease, but not in it.
3. Ensure the area is not occluded by any tight-fitting clothes or plasters.



4. If you can, draw around the area that you have applied to product to with a skin marker. This will help each day to ensure the product is applied to the same area. An alternative is to use sticky tape to define the area.
5. Re-apply the product twice daily for 21 days (or until a rash develops).
6. If a rash develops at any point, stop the ROAT, please take photographs of the area and email them to your dermatologist.
7. If no rash develops at 21 days, please still take photographs of the area and email them to your dermatologist.
8. If no rash develops by 21 days, the product is safe to use.

### **How do I dilute substances?**

If the solution to be applied is 10%, that means 1 ml (or 10ml) of substance and 9 ml (or 90ml) of water.

If the solution to be applied is 5%, that means 0.5 ml (or 5 ml) of substance and 9.5 ml (or 95ml) of water.

If the solution to be applied is 1%, that means 0.1 ml (or 1ml) of substance and 9.9 ml (or 99ml) of water.

### **What do I need to do?**

We would like you to perform a ROAT to;

- ☐ Find out whether an allergen which you have reacted to is present in one of your products
- ☐ Find out whether your product contains high enough levels of an allergen to cause a reaction
- ☐ Try to replicate the rash caused by a particular product when patch testing has been negative

In order to clarify the diagnosis of your skin condition, we would like you to perform the following:

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After 21 days, or if you experience a reaction, please take a photo and email to your dermatologist.



## Patch testing clinic- Skin care information sheet

Good skin care is vital for the prevention and management of occupational contact dermatitis and eczema. Undamaged skin provides an excellent natural barrier to skin irritation and the development of allergy. Understanding what substances or conditions aggravate the skin and avoiding them is also very important.

Skin care involves several different components, and it is like a package: all are important. It includes glove use, avoiding irritating soaps and hand cleaners, use of a soap substitute, use of moisturisers and barrier creams and use of topical corticosteroids if necessary.

Where there is the potential for skin problems, workplaces should have a skin care plan implemented for all workers to follow. This should spell out appropriate use of hand washes, moisturisers and gloves which are appropriate for the particular work environment.

### Skin protection

General glove use and advice:

- Use gloves for any washing, cleaning, or work where you need to wash your hands frequently (try not to choose rubber gloves if you already have damaged skin, as you can become allergic to either latex or the rubber chemicals).
- If your hands get sweaty under gloves, wear some cotton gloves inside (cotton-lined gloves are not as good), as they help absorb the sweat. These can then be washed and re-used.
- If you get a hole in the gloves, throw them out
- Avoid wearing natural rubber latex gloves which are powdered, as they can cause allergy.
- Wear gloves that fit correctly, that is not too big or small.

At work:

- Wear the right gloves for the task being performed , as not all gloves are suitable for all tasks
- Sometimes a fabric glove will be helpful for dry tasks, but a waterproof glove will be needed for other tasks
- Always use protective gloves when dipping your hands into parts cleaner
- Consult a glove manufacturer to find out what gloves are best for the tasks you are performing or chemicals being used
- More information is available at [www.ansell.com](http://www.ansell.com)
- Do not wash or re-use disposable gloves
- Do not share gloves with co-workers
- In particular, we have found that people using epoxy resins do not wear the correct gloves. Epoxies and some other chemicals easily penetrate readily available gloves, such as those used for dishwashing. Solvex® gloves by Ansell are one variety that are safe to use when handling epoxy resin.

At home:

- For light work at home, like dusting, use cotton gloves that can be washed; and for heavier work, like gardening, use heavy duty fabric gloves; this will stop you having to wash your hands as often
- Have several pairs of gloves for washing and cleaning around the house where you need them, such as the kitchen, laundry and bathroom
- If you have a dishwasher, use this rather than hand washing, or get someone else to do the washing
- For food preparation, use disposable gloves- such as polyethylene (clear plastic) or vinyl (almost clear plastic), especially when handling citrus fruits, tomatoes, potatoes and seafood



## Hand washing

Hand washing is an important component of the skin care routine for contact dermatitis and eczema. There is a range of different hand washing products available, and the one used will depend on the task being performed. Washing with very hot water is damaging to the skin, warm water is preferred. Excessive amounts of hand washing can also aggravate eczema and cause the development of irritant contact dermatitis.

There are a range of hand cleansers available:

### 1. Soaps

In the workplace, some soaps and hand cleansers can be too harsh or strong for the skin. Soap which has sand in it can be additionally damaging and drying.

Cleaning with solvents and thinners will immediately dry the skin and cause irritation.

Fragrance free hand soaps should be used because fragrance is a common cause of allergic contact dermatitis.

Talk to your safety supplier about a suitable type of hand cleanser for your workplace, one which is supplied in a dispenser is both convenient and hygienic, preventing contamination of the product, and dispenses the correct amount required.

### 2. Alcohol based hand rubs

Alcohol based hand cleansers are routinely used in the healthcare industry. However, their popularity is now growing in other industries with products now being developed for the construction, mechanical and metal working industries.

These cleansers minimise the need for hand washing and contact with soaps, and cater for those who do not always have access to hand washing facilities such as builders and other trades persons.

### 3. Soap substitutes

Soap substitutes are less irritating than normal soaps as they have a similar acidity (pH) to that of the skin, and therefore are preferred for people with dry or damaged skin, or have eczema.

Soap free washes include:

- Ego QV wash and Ego QV Intensive
- Hamilton's wash
- Dermaveen shower and body oil
- Cetaphil cleanser

**Dry your hands using a fabric towel whenever possible, as paper towel can be damaging to the skin. And don't forget to dry between your fingers and under rings.**

## At work

When washing your hands at work, use a specific cleanser suitable for the substance used in the workplace. We recommend that you do not use harsh gritty cleanser or solvents, if it is not really needed, as they too are damaging to the skin.

## Moisturising the hands

Moisturising creams used regularly can repair and maintain moisture in the skin. They are the most important treatment measure for irritant contact dermatitis. They may prevent dry skin from becoming inflamed, and turning into dermatitis.

When selecting a moisturiser there are several things to consider:



- A greasy **ointment** (they are usually thick and clear, like Vaseline) is most effective for healing damaged skin, but not always practical for day use. Ideally it should be used when you get home and before bed. If an ointment can't be used, a less greasy **cream** purchased in a tub or tube is next best.
- Moisturising **lotions** are also available. A lotion is a thin and watery substance often purchased in a pump pack. Pump packs of sorbolene lotion are convenient and useful for moisturising during the day, but are not generally as effective moisturisers as an ointment or cream.
- Some oil-based moisturisers may not be suitable for use under some gloves, as these moisturisers can damage the protective functions of the gloves. Generally we do not recommend the use of moisturisers under occlusive (tight-fitting, waterproof type) gloves. However at night, creams may be applied under cotton gloves.
- Fragrance free moisturiser is recommended (fragrance is a common cause of allergic contact dermatitis).

Examples of moisturisers are:

- Neutrogena hand cream- Norwegian formula
- Ego QV Moisturising cream, Intensive moisturiser and QV care range
- Dermaveen eczema cream and Dermaveen moisturising cream
- Cetaphil moisturising cream and intensive cream
- Dermeze- cream and ointment
- Hydraderm cream
- CeraVe
- Aqueous cream. This can be purchased from pharmacies. Glycerine and olive oil may be added.
- LaRoche-Posay
- Avene
- BioDerma.

**Important tip:**

**If your cuticles (the area around the edge of your fingernails) are damaged and disappear, protect them by 'sealing the gap' with a greasy ointment before your hands become wet. If the cuticle is damaged, water may get in and damage the growing nail. This causes ridging in the nail. It may also lead to nail fold inflammation ('paronychia').**

## Barrier creams

To date, some evidence about the effectiveness of barrier creams is conflicting.

Barrier creams often do not act as the protective shield which may be claimed, and other precautions such as wearing gloves, will still be required. However, applying barrier cream before work can make cleaning the skin easier at the end of the day, such as when working with grease or oil.

Just as all gloves are not suitable for every job, not all barrier creams are right for the job. Some are made to help protect against water-based substances and other are made to protect against oil-based substances. A safety supplier will provide advice on the best type to use in your workplace.

In many situations, use of specific barrier creams is not necessary, and a moisturising cream may have a similar effect. Again, there is most research available which suggests that after-work moisturizing is most important.

## Prescription treatments

In addition to the use of moisturisers, some hand rashes will also need prescribed treatments, such as corticosteroids either as a topical application or oral tablet form.



Topical corticosteroids (applied directly to the skin) are available as either white cream or a clear greasy ointment. Dermatologists usually prefer to prescribe ointments rather than creams, as they are more moisturising and they do not contain preservatives, which sometimes cause allergy.

These treatments may include:

- Advantan
- Betnovate
- Celestone
- Diprosone
- Eleuphrat
- Elocon
- Novasone

Generally the topical corticosteroids available over the counter, such as Dermaid or Sigmacort, are not strong enough to help dermatitis on the hands and/or body. However, they may be suitable for the face. As a rule, it is suggested that hydrocortisone is the only steroid used on the face.

Sometimes following skin splitting or cracking, sores can develop, which may indicate an infection has started. A prescription antibacterial ointment can be helpful. In some cases, a tar based cream may be helpful to treat thickened scaly skin. Antibiotics may sometimes be needed.

Important things to remember when using corticosteroid treatments are:

- They are most effective if used frequently and early during the itchy or inflammatory phase of dermatitis
- Use on affected areas and stop once the skin becomes normal
- Use them when you won't need to wash your hands, such as before bed. If used this way, the corticosteroids remain in the skin and will be most effective.
- Apply the corticosteroid, allow it to soak in and then apply moisturiser.

In severe cases of eczema and dermatitis, oral corticosteroids may be prescribed.

Other prescription creams or ointments which are not corticosteroid-based include Elidel and Daivonex.

### Other treatments-topical, physical, systemic

We would caution against the use of other topical agents on the skin (substances applied to the skin). We have seen a number of cases of allergic contact dermatitis to neat or concentrated tea tree oil applied directly to the skin. Other essential oils if applied undiluted may cause problems. Some creams containing bufexamac (such as 'Paraderm' or 'Paraderm Plus') occasionally cause allergies, especially when applied to damaged skin.

Physical treatments may be helpful, and include ultraviolet light treatment. The Skin and Cancer Foundation, where the Occupational Dermatology Clinic is based, is also fortunate to have access to a specialized form of low dose radiation treatment, Grenz ray, which we find to be very helpful.

Finally in severe cases, dermatologists may prescribe oral tablets, also known as 'steroid-sparing' agents. These include azathioprine (Imuran), cyclosporin (Neoral), methotrexate and acitretin (Neotgason). Other drugs such as alitretinon are also available. New immunotherapy drugs are beginning to enter the market as well and are used for eczema and psoriasis.

### Special note:

Methylisothiazolinone is a preservative that is currently causing high rates of allergy. It may be found in hand cleansers, moisturiser, hair products, baby wipes/makeup wipes, sunscreen and house paint. Please avoid using products containing this preservative.



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More information available at [www.occderm.asn.au](http://www.occderm.asn.au) or [www.skinhealthinstitute.org.au](http://www.skinhealthinstitute.org.au)  
Ph. 03 9623 9400





## Patch testing clinic- Dermatitis information sheet

Contact dermatitis is a skin condition, which appears similar to eczema. Sometimes people use words 'eczema' and 'dermatitis' to mean the same thing, but they are different. Contact dermatitis is an inflammatory skin condition caused by external substances touching the skin. Occupational contact dermatitis means that the dermatitis is caused by something you are contacting at work.

Dermatitis usually affects the hands, because it is the hands that are touching everything while you work. But it can also affect the arms, face or legs, in fact any part of the body.

Skin dryness is usually the first sign of dermatitis and often starts in the web spaces between the fingers.



Dermatitis can make the skin:

- Dry
- Itchy
- Red
- Split and crack
- Flake and peel
- Burn and sting
- Sometimes there are small blisters

**Example of dermatitis beginning in the web spaces between the fingers**

Like eczema, this condition can be very distressing and unsightly, and people often find the appearance of their skin embarrassing. It can interfere with sleeping, especially when it is very itchy. In some circumstances, dermatitis can become so severe that some people have to give up their job or career. However, it can often be managed with good skin care.

When dermatitis develops the skin may take months to heal, even once it looks like it has returned to normal.

Dermatitis commonly affects people working in a range of industries, but most often affects those working in:

- Hairdressing
- Healthcare
- Food handling
- Manufacturing
- Construction
- Printing
- Metal working
- Automotive industry

There are 3 main types of dermatitis:

- Irritant contact dermatitis
- Allergic contact dermatitis
- Contact urticaria. This includes latex allergy, which is a type of contact urticaria.

More information available [www.occderm.asn.au](http://www.occderm.asn.au) or [www.skinhealthinstitute.org.au](http://www.skinhealthinstitute.org.au) 03 9623 9400



## **Contact Dermatitis Information Sheet**

### **Nickel free diet**

An uncommon problem is people, who are known to be allergic to nickel, may develop dermatitis (an itchy skin rash) **after they eat foods containing nickel**. The concern is the nickel enters the blood to cause the rash in other parts of their body. Most common is a flare of hand dermatitis but sometimes a more widespread rash on other parts of the body occurs. While there is a debate amongst medical researchers whether this reaction really occurs it does seem to be truly a problem in some people. The amount of nickel in food required to cause the problem is not known. Presumably it depends on the nickel in the food, and how allergic you are to nickel and how easily your gut absorbs it. A few foods contain relatively large amounts of nickel, while others contain a tiny amount. The amount also varies depending on the soil it was grown in and other factors such as how as it was prepared.

As you will see, the nickel free diet is difficult to follow. It is not possible to avoid all foods containing just a little bit of nickel. More importantly it may not help fix the hand or other dermatitis from which you are suffering, even if you are known to be allergic to nickel. The diet is a guide to see if it will help the dermatitis and it takes from four to twelve weeks to be on the diet before you get a feeling of whether it has helped. Remember that the dermatitis tends to vary in its severity anyway (so improvement may occur even if you did not go on the diet. It also depends on what other treatment your Doctor has prescribed whether your dermatitis is improving despite the diet.

Do not try the diet if you are not likely to stick to it for example if you are going on holidays or if you are having a big party and entertaining friends. Eating at restaurants or other people's homes may present problem because you cannot control their cooking.

If the diet works, it may mean that your dermatitis has fewer and shorter flares. This is more likely then completely clearing the rash.

If you feel the diet works, try eating some of the suspect foods, re-introducing one a week. If they cause you a rash each time you eat them, avoid them. You could try re-challenge at a later date to see if the reaction still occurs. If you are under the care of a Dietician or Doctor and are on other special diets for other medical conditions like diabetes or cholesterol control do not try this diet without advice from your Doctor or Dietician.

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**The following FOODS have a high nickel content and should be AVOIDED:**

- **shellfish** - prawns, shrimp, mussels, crabs and crayfish
- **vegetables** – peas (green or split), beans (green, brown, white, bean sprouts), spinach, lettuce, leeks, lentils. Soy and protein powder. Also avoid large amounts of uncooked carrot or tomato.
- **grains** – wheat bran, rye bran, unpolished rice, oatmeal, buckwheat, millet (and things containing these).
- **fruits** – prunes, dates, figs, pineapple, raspberry. Perhaps apples and citrus fruits.
- **nuts** – peanuts, hazelnuts, almonds and other nuts.
- **confection** – chocolate, marzipan, strong licorice.
- **other** – baking powder (in large amounts), vitamins containing nickel (e.g. Vitamin B12).

**The following DRINKS have a high nickel content and should be AVOIDED:**

- chocolate and cocoa drinks. Tea from drink dispensers
- beer and wine
- The first litre of water taken from a tap in the morning should not be used to make food or drink as overnight, the nickel from the metal tap, etc. may have leached into the water.

**It is NOT necessary to avoid the following:**

- ✓ all kinds of meat, poultry, fish, eggs and dairy foods. Unflavoured yoghurt and yeasts are OK.
- ✓ **vegetables** – potatoes, parsley, broccoli, brussel sprouts, white or chinese cabbage, cauliflower, asparagus, red beets, corn, eggplant, red or green peppers, cucumber, dill, mushrooms, champignons and onions in moderation.
- ✓ **grain products** – finely milled wheat or rye flour, whole-grain rye, wheat bread (in moderation), white rice.
- ✓ **fruits** – pears, peaches, raisins, all berries except raspberries. Rhubarb.
- ✓ **drinks** – coffee or tea (not too strong and in moderation). soft drinks, some alcoholic beverages.

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## Contact Dermatitis Information Sheet

### Sodium metabisulfite

#### You are allergic to: Sodium metabisulfite

Allergic contact dermatitis can develop at any age and usually persists for many years. In some individuals sodium metabisulfite can cause more severe allergy e.g. anaphylaxis

#### What is sodium metabisulfite?

Sodium metabisulfite is a preservative used in a wide variety of cosmetics, food products and pharmaceutical products to prevent contamination by germs, particularly bacteria. Individuals who are allergic to sodium metabisulfite tend to be allergic to other sulfites e.g. sodium sulfite, sodium bisulfite.

**Common sources of sodium metabisulfite** - The following are examples of products where Sodium metabisulfite may be found – check the product label before using.

| Home sources                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Industrial/work sources                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Cosmetics – hair colours, hair sprays, self – tanning lotions, makeup, body washes, cleansers, perfumes</p> <p>Medications – topical medications (e.g. Nizoral cream), ophthalmic drops, nasal drops, local anaesthetics, oral medications (found in some formulations of paracetamol)</p> <p>Food – Dried fruits (raisins, apricots), avocados, potatoes, pickled onions, sauerkraut, jams, maple syrup, canned seafood, sausages, food starches</p> <p>Beverages – Wine, beer, bottled soft drinks, fruit juices, cordial, cider, vinegar</p> <p>Cleaning equipment for home brewing</p> | <p>Wood, pulp and paper industries</p> <p>Rubber</p> <p>Glass industry</p> <p>Mineral Extraction</p> <p>Photography products</p> <p>Cleaning and laundry products</p> <p>Food and beverage industries</p> <p>Gardening – Chemical stump removers</p> |

A review of the data at the Skin Health Institute showed the sources of SMB associated with allergic contact dermatitis which include; food/beverages (in particular wine), hair dyes, toothpaste, textile dye, liquid preservative and flour.

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### **How do I avoid sodium metabisulfite?**

Avoidance is the only long term treatment as you cannot be desensitised to Sodium metabisulfite. You need to read the ingredient label on any cosmetic products, or the material safety data sheet for industrial products to see if they contain Sodium metabisulfite.

### **Examples of products that may be used (free of sodium metabisulfite):**

- Shampoos and conditioners: Dermaveen shampoo and conditioner, Cetaphil baby shampoo
- Body or face washes: Dermaveen soap free wash, La Roche Posay Toleriane hydrating gentle cleanser
- Moisturisers: QV moisturising cream, La Roche Posay Toleriane Sensitive crème
- Deodorant: QV naked deodorant

### **Alternative names**

Manufacturers may use alternative names for sodium metabisulfite such as sodium pyrosulfite, disodium pyrosulfite, pyrosulfurous acid, disodium salt and sodium disulphite. In food it may be listed as an E number: E223.

Material safety data sheets may show the CAS (chemical) numbers: CAS 7681-57-4 for Sodium Metabisulfite, sodium sulfite CAS 7757-83-7 and sodium bisulfite CAS 7631-90-5.

### **Disclaimer**

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## **Contact Dermatitis Information Sheet**

### **Allergen name: Balsam of Peru free diet**

If testing has shown you are allergic to balsam of Peru, eating the foods listed below can occasionally cause a patchy dermatitis either on the lips or mouth. It is hard to say how commonly this is a problem in people allergic to Balsam of Peru but it is probably very uncommon. If it seems to be a problem in you, I have a diet sheet on foods to avoid. Except in lip or mouth rashes, the diet is not likely to help dermatitis elsewhere.

Very rarely, people allergic to Balsam of Peru develop a generalised rash (over many parts of their body) or a rash just on their hands when they eat foods containing the chemicals in Balsam of Peru. In most people though, these rashes are NOT due to Balsam of Peru related chemicals. If you have these rashes and you are not better by avoiding products containing Balsam of Peru contacting your skin, you may try avoiding the foods (as listed above) for 3 to 6 weeks. If the rash goes, you could slowly re-introduce individual food items to your diet to see if the rash comes back. Here you may need to challenge yourself with these foods a few times to work out whether it reliably causes your rash. If a food is causing the rash, it would usually only be a small number of the foods in the list - so you need to experiment if you take on this diet.

#### **Foods to avoid are:**

- spices (cinnamon, cloves, vanilla, nutmeg, paprika, chili sauce, curry, chutney, pickled vegetables or pickled herring, paté & liver pastes).
- perfumed tea, coffee or tobacco.
- colas and spiced soft drinks like Dr Peppers.
- vermouth, bitters, spiced beverages and some liqueurs (eg Curacao).
- ice creams.
- artificially flavoured baked goods, chewing gum and confectionary.
- citrus peel (from oranges, lemons, limes grapefruits, mandarins in marmalades, juices and bakery goods).
- certain cough medicines, lozenges and oil of cloves or eugenol (used by dentists).
- (chocolate - perhaps).

Keep in mind it may take up to a month before a food induced rash settles. If you improve, you should add back one food a week to see if avoidance really makes any difference. If foods are causing your rash, only one or two of the foods may be a problem and the rest can be eaten without difficulty so you may experiment.

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### Contact Dermatitis Information Sheet

#### **Chromate free diet**

Chromate allergy affecting the skin is common, and once developed can persist for a long time. Dermatitis (an itchy skin rash) can be located at the site of contact with chromate or may affect other areas of the body. Occasionally chromate dermatitis can develop after eating foods containing chromate[1].

The amount of chromate in food required to cause a problem is unknown and depends on

- Chromate content in food
- How allergic you are to chromate
- How easily your gut is able to absorb chromate

Chromate is present in many common dietary foods. The amount of chromate in food varies from country to country and is determined by

- the soil it was grown in
- fortification of the food
- mode of transporting and processing
- chromium introduced during the growth of plants and animals

A chromate free diet has been shown to be helpful in the treatment of other skin conditions such as eczema [2, 3] and may help with eruptions of dermatitis by causing fewer and shorter flares. It must be noted that a chromate free diet may not help in the treatment of chromate induced allergic contact dermatitis, even if you are allergic to chromate. It can take up to 4-12 weeks on a low chromate diet to assess whether it has been effective.

#### **How do I avoid chromate in my diet?**

- Dietary supplements – Check all dietary supplements for ingredients such as **chromium picolinate, chromium polynicotinate, chromium chloride, chromium histidinate, chromium-enriched yeast.**
- Canned food – Chromium can dissociate from the alloy of the can and thus increases the total chromium content on canned foods
- Stainless steel Utensils - Avoid cooking acid food (stewed fruits) in stainless steel utensils as chromium can dissociate from the alloy of the utensil. Other foods are not a problem
- Avoid food and drinks with high chromate content (see table)



| Foods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Drinks                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>○ Meats – Beef, processed meats, turkey, liver</li> <li>○ Seafood – Mussels, Oysters, brown shrimp</li> <li>○ Dairy products - cheese</li> <li>○ Fruits – Grapes, Apples, Oranges, Bananas, dried dates</li> <li>○ Vegetables – Potatoes, Tomatoes, Mushrooms, green beans, spinach</li> <li>○ Grains – rye bread, wholemeal, wheat</li> <li>○ Nuts – Brazil nuts</li> <li>○ Other – egg yolk (egg white is fine), fresh chilli, margarine, brewer's yeast</li> </ul> | <ul style="list-style-type: none"> <li>○ Tea</li> <li>○ Coffee</li> <li>○ Beer</li> <li>○ Wine</li> <li>○ Grape Juice</li> </ul> |

➤ Examples of products that have low chromate content

| Foods                                                                                                                                                                                                                                                                                                                                                                                                      | Drinks                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>○ Fish – Haddock, Herring</li> <li>○ Poultry – Chicken</li> <li>○ Vegetables – Carrots, Celery, Peas, Corn, Asparagus, Edamame, Turnip, Pumpkin, Cauliflower, Cabbage, Eggplant, Avocado</li> <li>○ Fruits – Apricot, Strawberry, Raspberry</li> <li>○ Nuts – Peanut</li> <li>○ Cereal, oats, rice</li> <li>○ Yoghurt</li> <li>○ Sugar</li> <li>○ Garlic</li> </ul> | <ul style="list-style-type: none"> <li>○ Milk</li> <li>○ Soy Milk</li> </ul> |

### Disclaimer

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**Skin Health Institute, 80 Drummond St, Carlton Vic 3053. Ph. 03 9623 9402.**

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1. Ozkaya, E., Z. Topkarci, and G. Ozarmagan, *Systemic allergic dermatitis from chromium in a multivitamin/multimineral tablet*. Contact Dermatitis, 2010. **62**(3): p. 184.
2. Veien, N.K., T. Hattel, and G. Laurberg, *Chromate-allergic patients challenged orally with potassium dichromate*. Contact Dermatitis, 1994. **31**(3): p. 137-9.
3. Kaaber, K. and N.K. Veien, *The significance of chromate ingestion in patients allergic to chromate*. Acta Derm Venereol, 1977. **57**(4): p. 321-3.

### Disclaimer

This information sheet is intended to provide general advice only. If you have any concerns regarding your individual situation, please contact your dermatologist.

## PATIENT INFORMATION SHEET

### AMMONIUM PERSULFATE

(A-011)

Your patch testing results indicate that you have a contact allergy to **AMMONIUM PERSULFATE**. It is important that you familiarize yourself with this chemical and take steps to avoid coming in contact with it.

#### What is **AMMONIUM PERSULFATE** and where is it found?

**This is a chemical used in hair bleaches as an oxidizer.** It is also used in de-colorizing and deodorizing oils, in electroplating, in making soluble starch, as a reducer and retarder in photography and in yeast treatment. Further research may identify additional product or industrial usages of this chemical.

#### What else is **AMMONIUM PERSULFATE** called?

This chemical can be identified by different names, including:

*Ammonium Peroxodisulfate, Diammonium salt, Diammonium Peroxodisulfate, Peroxydisulfuric acid, Persulfate d'ammonium*

This may not be a complete list as manufacturers introduce and delete chemicals from their product lines.

## THINGS YOU CAN DO TO HELP MANAGE YOUR CONTACT ALLERGY

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**Advise people you obtain services from of your contact allergy.** This should include people like your pharmacist, doctor, hairdresser, florist, veterinarian, etc.

**Inform your employer if the source of your contact allergy is work related.** You should identify the specific source of the chemical and take the necessary steps to avoid further exposure. Protective wear may be adequate or you may need to make a change in your work activities. Both you and your employer benefit when the cause of your occupational dermatitis is eliminated.

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If you have any future contact dermatitis concerns or questions, please call the doctor's office.

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### Contact Dermatitis Information Sheet

**Allergen name: Ammonium Persulfate**

#### **You are allergic to: Ammonium Persulfate**

Allergic contact dermatitis can develop at any age and usually persists for many years.

#### **What is the allergen name?**

You are allergic to **AMMONIUM, POTASSIUM OR SODIUM PERSULPHATE (or PERSULFATE)** when it contacts your skin. An allergy to one of these chemicals is likely to indicate an allergy to all of these chemicals. You will probably remain allergic to these chemicals indefinitely or at least for many years. *Material safety data sheets may show the CAS number for ammonium persulphate (7727 - 54 -0) or potassium persulphate (7727-21-1).*

These chemicals cause three main types of skin reactions.

(1) Allergic contact dermatitis, which is a delayed allergy *occurring hours to a day after contact*. It

particularly occurs in hairdressers or workers who use these chemicals frequently.

(2) Contact urticaria, or immediate reactions, which can occur within minutes of contact. Immediate skin reddening or burning and a runny nose with hayfever-like symptoms are most reported but generalized severe itch, hives and asthma also may occur. Occupational asthma characteristically occurs after work, often during the night. *Asthma and hayfever-like problems are more common in people using powdered forms of the chemicals.* Severe reactions to bleach have been reported on rare occasions. **You should not work with bleach if you are experiencing these symptoms.**

(3) In addition, irritant contact dermatitis may also occur.

**These chemicals are commonly used** in *hair* bleaching powders and pastes as a "booster", allowing less peroxide to be used and enabling lighter shades. *They are also a component of some permanent (oxidative) hair dyes (from salons or in home dyeing kits).* They are one of the three main causes of allergic contact dermatitis in hairdressers. Fortunately, once hairdressers avoid bleach they are unlikely to have further exposure to bleach in daily life. **Dust-free bleach should always be used to minimize the spreading of small particles of airborne bleach throughout the salon.**

Other uses of these chemicals include:

- **bleaching or deodorising agents for fats, oils, food starches, fabrics, and soaps.** They may sometimes be **sprayed on citrus fruits.**

- flour improvers in some countries. *Wheat ripener*. Also used as preservatives in food, and for removing mucous membranes in tripe.
- components in paper and cardboard (particularly that which is used for contact with wet, fatty or dry foodstuff), in adhesives, cellophane, batteries and some rubber gaskets
- industrial bleaching, oxidizing, and antiseptic agents *and as a polymerisation initiator in the plastics industry*.
- processing of *plastics and textiles (like acrylic fibre manufacture)*, photography; production of aniline dyes. *Printed circuit board manufacture*.
- pharmaceuticals (rarely).
- *polyacrylamide gel electrophoresis used in biosciences*.
- production of some metals- e.g. zincography and galvanization. *Etching agent for copper zinc and glass*. *Metallurgical analysis*.

**Other chemical names** for ammonium persulfate:

Ammonium peroxydisulfate, peroxydisulfuric acid, diammonium salt, diammonium persulfate, diammonium peroxydisulfate, ammoniumperoxodisulfate, ammoniumperoxydisulfate, ammoniumperoxysulfate.

**Other chemical names** for potassium persulfate:

Peroxydisulfuric acid, dipotassium salt, potassium peroxydisulfate and dipotassium persulfate.

**Other chemical names** for sodium persulfate:

Sodium peroxydisulfate, peroxydisulfuric acid and disodium salt.

**YOU SHOULD AVOID ALL OF THESE CHEMICALS.**

## PATIENT INFORMATION SHEET

### BENZOIC ACID

(B-005)

Your patch testing results indicate that you have a contact allergy to **BENZOIC ACID**. It is important that you familiarize yourself with this chemical and take steps to avoid coming in contact with it.

#### What is **BENZOIC ACID** and where is it found?

This is a **chemical food preservative**. It is used as an antifungal agent and can be found in **acidic food, fruit juices, sparkling drinks, and pickles**. It is also used for curing tobacco and is present in plasticizers, **perfumes, cosmetics** and dentifrices. Further research may identify additional product or industrial usages of this chemical.

#### What else is **BENZOIC ACID** called?

This chemical can be identified by different names, including:

*Benzenecarboxylic Acid, Phenylformic acid, Benzene formic acid, Retarded ba, Benzenemethonic Acid, Retardex, Carboxybenzene, Salvo, Diaclyic acid, Tennplas, Phenyl carboxylic acid, Oracylic Acid*

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## Contact Dermatitis Information Sheet

**Allergen name: Benzoic acid**

**You are allergic to: Benzoic acid**

Allergic contact dermatitis can develop at any age and usually persists for many years.

### **What is the allergen name?**

You are allergic to skin contact with the preservative **BENZOIC ACID** (also called benzene carboxylic acid, benzene formic acid, benzenemethanoic acid, carboxybenzene, benzene carboxylic acid, dracrylic acid, phenylcarboxyl acid or phenylformic acid). It may be used as **SODIUM BENZOATE** which, in acidic solutions, converts to benzoic acid. The allergy will probably remain indefinitely or at least for many years. Trade names for BA / SB include Retarder BA, Retardex, Salvo powder, Solvo liquid, Tenn-Plas, (note these trade names are often not used on the product labels). Material safety data sheets may show the CAS number for the chemicals (benzoic acid = 65-85-0, sodium benzoate = 532-32-1).

Benzoic acid is an oily chemical which kills some fungal organisms and bacteria. It or its water soluble form, sodium benzoate is found in a variety of cosmetic products and also in some pharmaceutical medicines for on the surface use. Compulsory labelling of ingredients in cosmetics means you can check for its presence in the products you want to use. If you suspect a product you are using has benzoic acid and you want to use it you could perform a use test. Apply a small amount of the product to an approximately 3 cm by 3 cm area on the inside of the arm near the elbow. Leave it on, re-applying twice a day for 3 weeks. If no rash or itching occurs, the product is probably safe for you to use. Some people allergic to benzoic acid are also allergic to 'balsam of Peru' (which contains some benzoic acid) - you were also tested for allergy to this. It is an extract from a shrub used in perfumery and some medications. If you are allergic to balsam of Peru, I will give you a separate information sheet.

Also benzoic acid and sodium benzoate can cause a different type of skin reaction called contact urticaria – this is unrelated to delayed contact allergy and is not easily picked up by the patch testing you have just completed. Here contact with the chemical fairly quickly causes reddening and itching or burning of the skin, lasting for only minutes to hours after contact stops.

### **Possible sources of benzoic acid include:**

**(1) Cosmetics and deodorants:** - cleansers, moisturisers, hair dyes, personal lubricants, shampoos & bubble baths,

shower & bath gels, washes (body, face, hands).

### **(2) Pharmaceuticals:**

- antifungal products: - Daktarin (cream, lotion), Ecostatin cream, Gyno-Daktarin cream, Monistat Derm & Monistat 7 creams, Pevaryl & Pevaryl vaginal creams, Whitfield's ointment (treatment for tinea).

- Phisohex antibacterial face wash Skinoren cream (acne treatment) / Salofalk enema / some antindandruff shampoos (e.g. Head and Shoulders).

- some eye solutions – e.g. for contact lenses,

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- some oral medicines and syrups (e.g Actifed, Senega and Ammonia, Vicks) and medicines for injection.

**(3) Mouth products** (includes):

- mouthwashes: - Biotene, Listerine (various types), Neutrofluor, Oral B tooth & gum care mouth rinse, Coles Persona total care mouth wash, Safeway homebrand mouth wash and Thymol APF.
- toothpastes.

**Foods:** - used as a preservative, flavoring and adjuvant in various foods including fruit juices, soft drinks, jams, jellies, aspic, cranberries and some fatty foods like milk and milk products. It can also be used in alcoholic drinks. The food additive numbers are 210 (BA) and 211 (SB).

It quite uncommon for people known to be allergic to benzoic acid when it touches the skin to have a reaction from eating foods or using oral or injected medicines that contain benzoic acid. This reaction could be an itchy rash on various parts of the body starting minutes to hours after having the item.

**(4) Industrial:**

- intermediate in the synthesis of chemicals (phenol, caprolactam, sodium and other benzoates, benzoyl chloride, benzoyl diethylene, dipropylene glycol and dibenzoate plasticizers).
- automotive antifreezes (preservative & corrosion inhibitor).
- curing tobacco.

**Preservatives which should be safe to use include:** - parabens (also called hydroxybenzoates) – e.g. benzyl, butyl, ethyl methyl or propyl parabens, imidazolidinyl urea, diazolidinyl urea, DMDM hydantoin, bromonitropropane diol, Quaternium 15, methyl isothiazolinone (MI), methyl-chloro isothiazolinone (MCI), benzyl alcohol, chloroacetamide, chlorocresol, methyldibromoglutaronitrile, iodopropynyl butyl carbamate, propylene glycol, sorbic acid.

## PATIENT INFORMATION SHEET

### CETRIMONIUM BROMIDE

(C-050)

Your patch testing results indicate that you have a contact allergy to **CETRIMONIUM BROMIDE**. It is important that you familiarize yourself with this chemical and take steps to avoid coming in contact with it.

#### What is **CETRIMONIUM BROMIDE** and where is it found?

Cetrimide is a cationic surfactant used in topical preparations against bacteria and fungi. It can be found in **lice kits**, cosmetics, **conditioner and hair products**. Further research may identify additional products or industrial usages of this chemical.

#### What else is **CETRIMONIUM BROMIDE** called?

This chemical can be identified by different names, including:

*1-Hexadecanaminium, N,N,N-trimethyl-, bromide, Cetyl trimethyl ammonium bromide, Ammonium, hexadecyltrimethyl-, bromide, Hexadecyltrimethylammonium bromide N,N,N-Trimethyl- Cetab, 1-hexadecanaminium bromide, Cetrimonium bromide, n-Hexadecyltrimethylammonium bromide*

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## PATIENT INFORMATION SHEET

### GLYCERYL THIOGLYCOLATE

(G-004)

Your patch testing results indicate that you have a contact allergy to **GLYCERYL THIOGLYCOLATE**. It is important that you familiarize yourself with this chemical and take steps to avoid coming in contact with it.

#### What is **GLYCERYL THIOGLYCOLATE** and where is it found?

This is a chemical, also known as GMTG, is used as a reducing agent in most of modern "acid type" **permanent- waving solutions**. It is a component of developer solutions in permanent wave products. **GMTG is a significant sensitizer that can induce allergic reactions in hairdressers and their customers**. Further research may identify additional product or industrial usages of this chemical.

#### What else is **GLYCERYL THIOGLYCOLATE** called?

This chemical can be identified by different names, including:

*Acetic Acid, Mercapto-Monoester with 1,2,3-Propane-triol, Glyceryl thioglycolate, Acid permanent waves, Hot permanent waves, Glycerol monomercaptoacetate, Mercaptoacetic acid, Monoester with 1,2,3-Propane-triol*

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## PATIENT INFORMATION SHEET

### Hexyl cinnamic aldehyde

(H-025)

Your patch testing results indicate that you have a contact allergy to **Hexyl cinnamic aldehyde**. It is important that you familiarize yourself with this chemical and take steps to avoid coming in contact with it.

#### What is **Hexyl cinnamic aldehyde** and where is it found?

This chemical is a fragrance for use in various perfumed and flavored products (e.g., fresh, floral, green, jasmine, herbal and waxy). It is found in acid cleaner liquids, **detergents, lotions, fabric softeners, anti-perspirants, foam baths, bleach, hard surface cleaners, shampoos and soaps**. Further research may identify additional product or industrial usages of this chemical.

#### What else is **Hexyl cinnamic aldehyde** called?

This chemical can be identified by different names, including:

*2,6-Dimethyl-2-octen-8-ol, dL-Citronellol, 3,7-dimethyl-6-Octen-1-ol, Hexyl Cinnamal, Beta-citronellol, Levo-citronellol, Cephrol, Rhodinol*

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### Contact Dermatitis Information Sheet

**Allergen name: Mercapto chemicals**

**You are allergic to:** Mercapto chemicals

Allergic contact dermatitis can develop at any age and usually persists for many years.

You are allergic to **MERCAPTO CHEMICALS** - including **MBT (MERCAPTOBENZO-THIAZOLE)** when they contact your skin. You will probably remain allergic indefinitely or at least for many years.

**Mercapto** chemicals are a group of chemicals used mainly as 'accelerators' in the curing process of rubber making (They are chemicals used in making rubber). Small amounts (but enough to cause allergy) remain in the finished rubber product. It is in both natural (latex) rubber and some synthetic rubbers. Some synthetic rubbers (like styrene-butadiene) have reasonably large amounts of MBT.

The chemical names of the main mercapto chemicals to which you have been tested are:

|                                       |               |
|---------------------------------------|---------------|
| MERCAPTOBENZOTHIAZOLE                 | CAS* 149-30-4 |
| N-CYCLOHEXYLBENZOTHIAZYL SULPHENAMIDE | CAS 3081-14-9 |
| DIBENZOTHIAZYL DISULPHIDE             | CAS 120-78-5  |
| MORPHOLINYLMERCAPTO BENZOTHIAZOLE     | CAS 102-77-2  |

\* as may find in material safety data sheets.

MBT and other mercapto chemicals are commonly found in the following products:

a. **Rubber items:**

- **rubber gloves** - (**most common cause**) eg as used in the kitchen, industry, medical. Tell medical or dental staff as rubber gloves they wear occasionally cause problems too. Sweating tends to leach out carb chemicals onto the skin **Also used to make nitrile gloves** (these are often sold as OK to use if rubber allergic - this **is NOT** the case for you)
- balloons.
- condoms.
- bathing caps.
- rubber pillows.
- handle grips.
- gaskets and washers.
- tyres and tubes.

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- elastic in clothing & other items (including some stockings).
- rubber hoses.
- rubber adhesives (including adhesive tapes).
- rubber bands.
- shoes (insoles, linings, soles and glues) and rubberised boots.
- **sponge make-up applicators and rubber eyelash curlers.**
- pencil erasers (has caused lip dermatitis by chewing on them).

Less commonly, mercapto chemicals may be found in:

- b.
- adhesives (glues) for leathers and plastics.
  - agricultural fungicides & insecticides.
  - insulation tape.
  - veterinary flea or tick powders or sprays.
  - cutting oils and antifreezes.
  - photographic film emulsion.
  - **detergents.**

**Safe alternatives** include products made from:

- PVC (vinyl, polyvinyl chloride).
- silicon.
- polyurethane (some condoms).
- polyvinyl acetate.
- polyethylene.
- Lycra (OK as an elastic substitute).

If you have hand dermatitis and wear rubber gloves, mercapto chemicals are the likely cause.

- If possible use vinyl gloves. Mercapto-free sterile surgical (neoprene) rubber gloves are available (Dermaprene, Ansell). In the USA and Europe, an alternative is Tactylon or Elastyren gloves (not available in Australia).

If you have foot dermatitis, mercapto chemicals in shoe rubbers or glues are the likely cause. Moccasins and wooden soled shoes are OK. For formal and sport shoes, simply putting in a cork or felt insole, minimising sweating with shoe free periods and frequent changes of socks may be enough. Don't wear your old socks, which may be contaminated with the chemicals. If the problem persists, you may have to have special shoes made where non-rubber components and glues are used.

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## PATIENT INFORMATION SHEET

### p-AMINOPHENOL

(A-009)

Your patch testing results indicate that you have a contact allergy to **p-AMINOPHENOL**. It is important that you familiarize yourself with this chemical and take steps to avoid coming in contact with it.

#### What is **p-AMINOPHENOL** and where is it found?

This is an organic compound used as a developer in black & white film (Rodinal). It is used in the manufacture of sulfur and azo dyes and used in the dyeing of textiles, hair, fur, feathers, some pharmaceuticals and oil additives. Further research may identify additional product or industrial usages of this chemical.

#### What else is **p-AMINOPHENOL** called?

This chemical can be identified by different names, including:

*4-Amino-1-hydroxybenzene Citol, Fouramine p, Para-Aminophenol, Rodinal, 4-Hydroxyaniline,; C.I. 76550, Fourrine 84, Paramidophenol, Renal ac, 4-Aminobenzenol, C.I Oxidation base 6a, Freedol, Pelagol p base, Tertral p Base, Azol, Durafur Brown rb, Indianol, Pelagol grey p base, Unal, Basf ursol p base, Energol, Kathol, P-Hydroxyaniline, Ursol, Benzofur p, Fourrine p Base, Kodelon, Paranol, Ursol p Base, Certinal, Furro p Base, Nako Brown r, PAP, Zoba Brown p base*

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## THINGS YOU CAN DO TO HELP MANAGE YOUR CONTACT ALLERGY

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**Test the product first.** If you have purchased a new product you should test it on a small skin area to see if you get a reaction before using the product on larger skin areas.

**Advise people you obtain services from of your contact allergy.** This should include people like your pharmacist, doctor, hairdresser, florist, veterinarian, etc.

**Inform your employer if the source of your contact allergy is work related.** You should identify the specific source of the chemical and take the necessary steps to avoid further exposure. Protective wear may be adequate or you may need to make a change in your work activities. Both you and your employer benefit when the cause of your occupational dermatitis is eliminated.

**"Google" it.** The internet is an excellent source of ingredient information that can be searched by product, by company and by specific chemical. Some helpful independent internet links

include: [www.nlm.nih.gov/pubs/factsheets/factsheets.html](http://www.nlm.nih.gov/pubs/factsheets/factsheets.html) (U.S. Dept. of Health and Human Services; alphabetic list) [www.nlm.nih.gov/pubs/factsheets/factssubj.html](http://www.nlm.nih.gov/pubs/factsheets/factssubj.html) (U.S. Dept. of Health and Human Services; subject list) [www.cosmeticsinfo.org](http://www.cosmeticsinfo.org) (Cosmetic Industry Category Ingredient Database) [www.whatsinsidescjohnson.com](http://www.whatsinsidescjohnson.com) (information on all S.C. Johnson product ingredients)

If you have any future contact dermatitis concerns or questions, please call the doctor's office.

DISCLAIMER: Every effort is made to ensure the accuracy of the information provided herein. However, CHEMOTECHNIQUE MB DIAGNOSTICS AB makes no warranties or representations of any kind as to its accuracy, currency or completeness. Such information is provided for informational purposes only and is not meant to be a substitute for physician or health professional advice.

## PATIENT INFORMATION SHEET

### Tixocortol-21-pivalate

(T-031, T-031A)

Your patch testing results indicate that you have a contact allergy to **Tixocortol-21-pivalate**. It is important that you familiarize yourself with this chemical and take steps to avoid coming in contact with it.

#### What is **Tixocortol-21-pivalate** and where is it found?

This chemical is an **anti inflammatory topical corticosteroid used in nasal sprays for the treatment of rhinitis, pharyngitis and ulcerative colitis**. It is also the key screening substance for contact allergies to class A corticosteroids. Further research may identify additional product or industrial usages of this chemical.

#### What else is **Tixocortol-21-pivalate** called?

This chemical can be identified by different names, including:

*11beta,17-Dihydroxy-21-mercaptopregn-4-ene-3,20-, Pivalone, dione 21-pivalate, Procolon, 11b)-21-[(2,2-dimethyl-1-oxo-propyl)thio]-11,17-, Rectovalone, dihydroxypregn-4-ene-3,20-dione, Tivalon-NT, JO 1016, Tiprederm*

This may not be a complete list as manufacturers introduce and delete chemicals from their product lines.

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## Contact Dermatitis Information Sheet

### Topical Corticosteroids

#### You are allergic to: **Topical Corticosteroids**

Allergic contact dermatitis can develop at any age and usually persists for many years.

#### What are corticosteroids?

Corticosteroids are also known as cortisone or steroids, and are synthetic versions of natural hormones produced by your body. Topical corticosteroids are available in lotion, cream or ointment form and are applied to the skin for their anti-inflammatory action. They are used to treat a variety of skin problems but very rarely, can also cause allergic contact dermatitis in some people. They are available both over-the-counter (without prescription) or on prescription from a doctor, depending on the strength of the corticosteroid.

Corticosteroids may also be contained in sprays or inhalers for asthma and hayfever, and in some types of ear and eye drops as well in tablets prescribed for severe inflammatory problems. Some corticosteroids are combined with the other medicaments e.g. Kenacomb – triamcinolone + neomycin + nystatin; Sofradex – dexamethasone + framycetin + gramicidin. These other medicaments may also cause allergy.

#### When to suspect allergic contact dermatitis from topical corticosteroids

Allergy should be suspected when a rash that has previously improved with a topical steroid fails to improve, as it did previously. Alternatively, it should be suspected when the rash does not respond at all to use of the corticosteroid. Sometimes, allergy may develop following a joint injection of corticosteroid. Rarely, the allergy can cause a severe dermatitis. Allergy may occur to the corticosteroid itself or to a preservative or other ingredients of the preparation (such as medicaments, emulsifiers etc). Generally, corticosteroids **ointments** are preferred for use on the skin, as they are greasy, have less ingredients than creams or lotions and do not need preservatives. Patch testing is the only way to identify the ingredient causing allergy. Extremely rarely, people can be allergic to oral steroids.

If you are allergic to corticosteroids contained in sprays for asthma or hayfever, you may experience dermatitis on your face. In addition, inappropriate use of strong topical corticosteroids on the face can cause a different skin condition, perioral dermatitis.

#### Which corticosteroids do I need to avoid?

Avoidance is the only long term treatment as you cannot be desensitised to corticosteroids.

Let your doctor know about your allergy before they prescribe any topical corticosteroids for you.

There are many different types of corticosteroids which are separated into groups. If you are allergic to one in a particular group, avoid others in the same group (see over).

Table Adapted from: Nguyen, H. L. and J. A. Yiannias (2019). "Contact Dermatitis to Medications and Skin Products." Clin Rev Allergy Immunol **56**(1): 41-59

**Disclaimer** This information sheet is intended to provide general advice only. If you have any concerns regarding your individual situation, please contact your dermatologist.

|                                                  | Chemical name                                                                                                                                                                                                                                                                              | Trade (pharmaceutical company) name                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Group 1 (Previously Class A, D2 plus budesonide) | Budesonide<br>Hydrocortisone*<br><br>Fludrocortisone acetate<br>Fluorometholone<br>Isofluprednone acetate<br>Mazipredone<br>Medrysone<br>Methylprednisolone<br><br>Methylprednisolone aceponate<br>Prednicarbate<br>Prednisone<br>Prednisolone<br><br>Tixocortol pivalate<br>Triamcinolone | Pulmicort, Rhinocort<br>Sigmacort, Ego range (Egocort, Dermaid, Resolve plus), Cortic DS, Proctosedyl<br>Hydrozole, Canesten plus, Siguent, Hysone, Hydroform, Ciproxin HC, Zovirax Duo<br>Florinef<br>Flarex, FML Eye Drops<br><br>Medrol, Medrol Dosepak<br>Depo-Medrol , Neomedrol, Solumedrol<br>Advantan<br><br>Panafcort, Sone, Predsone<br>Scheriproct, Panafcortelone, Solone Flo-Pred, Predmix, Prednefrin forte, Redipred, Predsol, Predsolone<br>Pivalone |
| Group 2 (Previously Class B)                     | Amicinonide<br>Desonide<br>Fluchloronide<br>Flunisolide<br>Fluocinolone acetonide<br>Flucinsonide<br>Halcinonide<br>Triamcinolone                                                                                                                                                          | Cyclocort<br>DesOwen, Verdeso<br><br>Aerospan<br>Synalar<br>Vanos<br>Halog<br>Aristocort, Kenacort, Kenacomb, Otocomb, Tricortone, Kenalog in Orabase                                                                                                                                                                                                                                                                                                                |
| Group 3 (Previously Class C and D1)              | Aclomethasone dipropionate<br>Betamethasone sodium phosphate<br>Beclomethasone<br>Betamethasone valerate<br><br>Betamethasone dipropionate<br><br>Clobetasol butyrate<br>Clobetasol propionate<br>Dexamethasone<br>Flumetasone pivalate<br>Fluticasone<br>Mometasone furoate               | Aclovate<br>Celestone Chronodose<br>Aldecin, Beconase, Qvar<br>Celestone M, Antroquoril, Betnovate 1/5, Cortival<br>Celestone M, Betnovate, Cortival<br>Beconase, Qvar, Diprosone OV, Eleuphrat, Daivobet, Enstilar<br>Eumovate<br>Dermovate, Clobex, Clodex<br>Decadron, Maxidex, Otodex, Sofradex<br>Locacorten Vioform<br>Flonase allergy<br>Elocon, Novasone, Zatamil                                                                                            |

\* Tixocortol-21-pivalate is a screening agent for hydrocortisone (Group B)