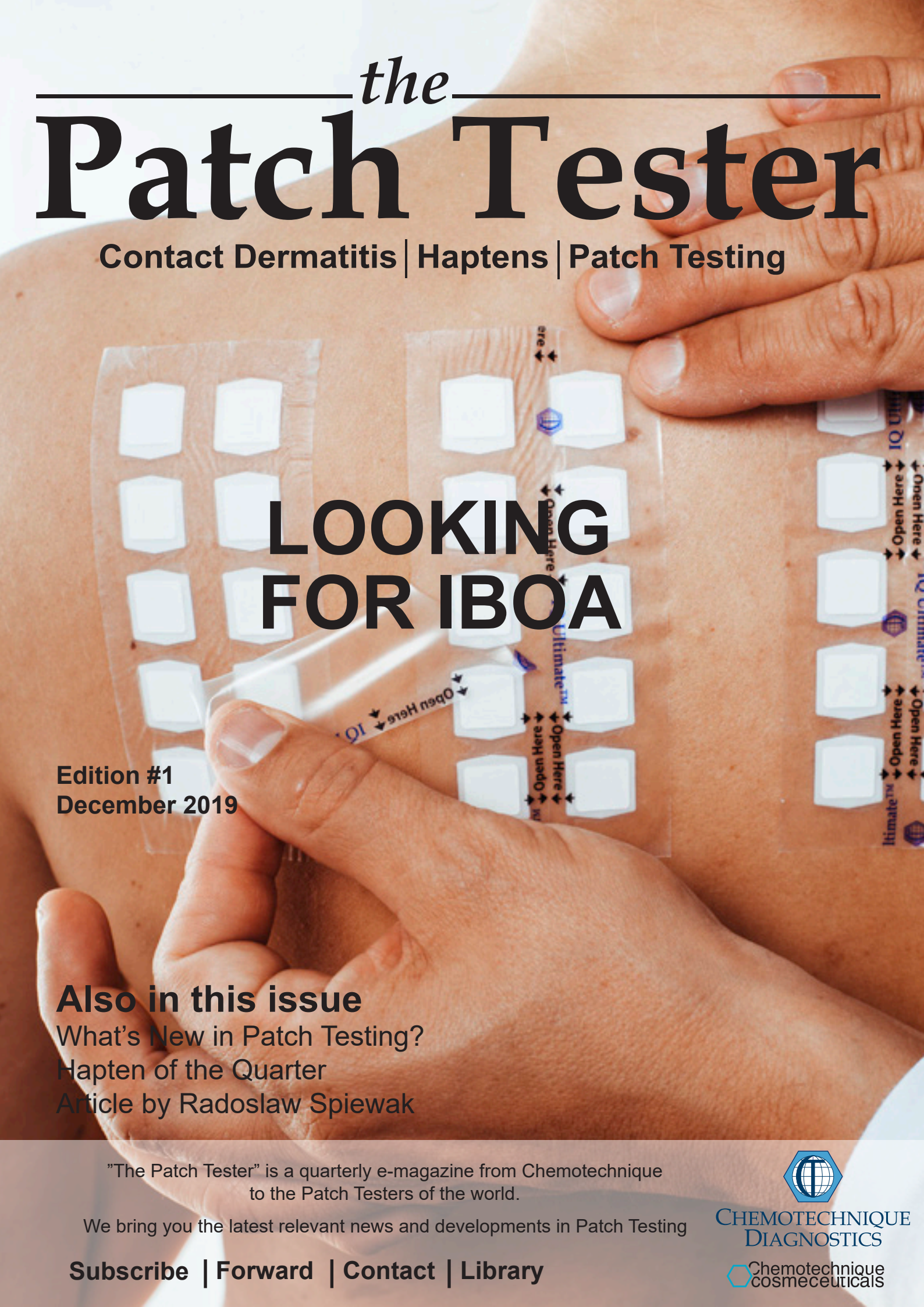
the Patch Tester

Contact Dermatitis | Haptens | Patch Testing



LOOKING FOR IBOA

Edition #1
December 2019

Also in this issue

What's New in Patch Testing?
Hapten of the Quarter
Article by Radoslaw Spiewak

"The Patch Tester" is a quarterly e-magazine from Chemotechnique to the Patch Testers of the world.

We bring you the latest relevant news and developments in Patch Testing

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Chemotechnique Diagnostics
Chemotechnique cosmeceuticals

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PURPOSE

The Patch Tester is an e-mag developed by Chemotechnique to serve as an information resource for all Patch Testers and other Dermatologists around the world; not just in Sweden, or Europe, or America, but wherever the English language can be read and understood. This first issue comprises a dozen pages with various different topics and features. Ultimately, we plan for The Patch Tester to become the forum for all of us to communicate and cooperate, in all directions.

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ACKNOWLEDGEMENTS

Production Editors: David Niklasson & Steve Lee

CHEMOTECHNIQUE DIAGNOSTICS

The trusted name in Patch Testing

Chemotechnique MB Diagnostic AB has provided Patch Test solutions since 1981 and is proudly recognized as the Trusted name in Patch Testing.

Through continuous research and development our range of products is constantly being updated, most recently with the addition of the **IQ Ultimate™** Patch Test Unit - our most advanced Patch Test Unit to date.

For more information on our whole product range, visit **www.chemotechnique.se**

Topical Haptens

Chemotechnique offers the widest range of commercially available high quality topical haptens. The 555+ different preparations are available for purchase in sets of series or as individual preparations. The composition of the various Baseline Series, as well as the additional Screening Series, has been carefully selected based on published studies and in close co-operation with leading contact dermatitis societies.

IQ Ultimate™

Elastic, transparent and water resistant. In addition to the features shared with the **IQ Ultra™**, **IQ Ultimate™** has the above named added benefits as a result of the 25 micron thin carrier film. Allowing for both showers and moderate exercise - **IQ Ultimate™** is the ideal Patch Test Unit for the diagnosis of contact allergy in active patients.

IQ Ultra™

Comfortable and chemically inert - **IQ Ultra™** is the reliable patch test choice. The **IQ Ultra™** is designed to take full advantage of the acclaimed IQ Chambers. The strong adhesive properties of the premium quality, hypoallergenic and latex free carrier tape eliminates the need for extra reinforcement for patients with normal skin. The **IQ Ultra™** Patch Test Units are most cost effective as filter papers and protective covers are not add-ons, but integrated into the design.

Accessories

Chemotechnique provides a full range of accessories and spot tests that makes patch testing efficient.

France and Sweden propose restricting skin sensitising substances

Recently Sweden has together with France prepared an Annex XV Restriction Proposal on Skin Sensitising Substances in textiles, leather, fur and hide. The report has been prepared by the French Agency for Food, Environmental and Occupational Health & Safety (ANSES) and the Swedish Chemicals Agency. This was initiated on the basis of Article 69(1) of the REACH Regulation, which is directly applicable (as national law) in all EU member states. The report clearly stresses the growing problem of contact allergy, the life-long effects it has, and positively describes both contact allergy and patch testing.

The report states that there is a growing concern at the EU level and worldwide about skin sensitisation of the general population from exposure to chemicals in textiles and leather (pp. 18-19). The number of sensitised individuals in EU to chemical substances in textiles and leather is estimated to be 4-5 million. The data also shows that there is no difference in the prevalence of contact allergy between children and adults. The incidence of contact allergy is likely to be underestimated because of underdiagnosis, underreporting and lack of registration. Also, the prevalence of ACD related to chemicals in textiles and leather is reported as increasing, probably because of changed textile manufacturing techniques, due to, for instance, the use of new substances (with unknown chemical composition) which are continuously introduced to the textile industry to meet the demands of consumers or to supply new fashionable colours, shapes and fabrics (Lisi et al 2014; Seidenari et al, 2002).

From the literature and from dermatologists consulted during the preparation of the restriction proposal (p.22):

- The prevalence of ACD in the general population (all causes) range from 4.4% to 18.4%, with a lifetime prevalence of around 15-20%.
- Annual incidence rates (new cases) of ACD in the general population (all causes) are between 0.17% and 0.7% per year .
- Prevalence studies (frequency) of positive patch tests from testing with chemicals in finished textile and leather articles in adults range from 0.4% to 17 %, with an average calculated by the Dossier Submitter of around 5%.
- The prevalence of ACD caused by chemical substances in textile and leather articles in the general population is around 0.8-1%.
- Based on these data, the incidence of ACD caused by chemical substances in textile and leather in the general population is around 0.01% and 0.04% per year.

The challenges in ensuring that individuals suffering from ACD receive a proper diagnosis are further described in the Annex (pp. 170–172) by Manzini, 1991; Seidenari, 2002.: “Even in the situation where the patients go to visit a dermatologist, many factors make the diagnosis of textile contact dermatitis difficult:

- Skin lesions show very polymorphous clinical pictures with unusual localizations or unusual clinical patterns.
- Patch tests with textile series are not systematically performed.
- Specific textile series (textile dyes series in particular) contain substances that are nowadays employed in a limited group of garments.
- New dyes and new substances with unknown chemical compositions (or those not available in formulations suitable for patch testing) are continuously introduced into the textile industry.
- Dyes are rarely given a Colour Index number and their chemical structure is often unknown.
- Different dyes are often used for a single garment.

The most commonly used Chemotechnique patch tests series for the diagnosis of textile and leather related ACD are listed on pp. 173-175: **S-1000**, **TF-1000**, **SH-1000**, and the content of **MX-30** (textile dye mix).

The Annex document on Cost (disease burden) of Contact Allergies states:

- Total annual cost per current ACD case €3,700 to €13,800
- Total annual cost per new ACD case €3,800 to €13,900

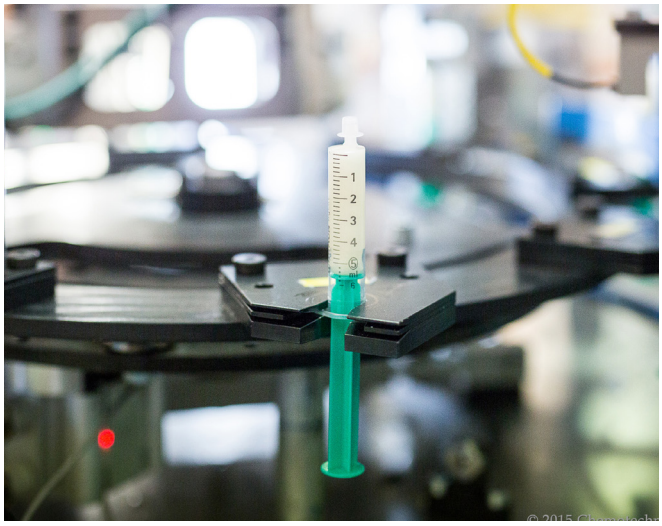
This regulatory document is intended to apply not only to products manufactured in the EU but also products imported into the EU though manufactured in any other countries such as Indonesia, China, Philippines, Sri Lanka, India, etc.

So, in conclusion, this isn’t just another regulatory document of limited application to the relevant minor industry in EU member countries, or of little real benefit to citizens of EU member countries. In contrast, this EU initiative seeks to standardise globally on the reduction of usage of potentially harmful chemicals in the production of textiles and clothing. It therefore strives to achieve a significant reduction in morbidity of ACD caused by the use of these sensitising chemicals.

The 115-page document, entitled Annex XV Restriction Report, dated 14th June 2019
Can be downloaded here

Helping the industry creating safe fragrances

Chemotechnique is currently working in an international project to monitor the frequency of contact allergy sensitisers in a defined group of fragrance ingredients. The aim of this project is to obtain valuable information that will be used to gain insights on fragrance sensitisers and ultimately to be used in the formulation of safe scented products. Chemotechnique takes a great pleasure in being able to use its accumulated expertise in contributing to this initiative that aims to proactively reduce the spread of ACD.



Following up on the European Baseline Series

After the major update of the European Baseline Series (EBS, S-1000) in October of 2018, the time has come to follow up on the revision. The ESCD EBS taskforce, with Chemotechnique CEO Bo Niklasson among its members, will have met in September to assess the revised EBS and discuss any eventual changes for a 2021 version of the Patch Test Series. Any alterations to the composition will be implemented in the 2021 Chemotechnique Patch Test Products range.

Gearing up production

During the past year both the production department and the quality control department at the Chemotechnique Vellinge site have been expanded in order to meet the ever-growing demand for Chemotechnique Patch Test products. These steps will not only further strengthen our capacity to deliver high quality products but also allow continued research and process development without compromising on production. It is with great joy that we welcome Ingela, Nadide, Yasra, Katarzyna, Roger, Caroline, Lisa and Faton to the Chemotechnique team!

Isobornyl Acrylate - IBOA

IBOA was named as **Contact Allergen of the Year** at ACDS in March 2019

Chemistry

Isobornyl acrylate (IBOA) is a mono-functional reactive diluent that polymerises when exposed to a source of free radicals, such as UV light. It is a key monomer for the manufacture of acrylic resins, and is best suited for use in solvent-based systems.

The bicyclic structure of IBOA gives rise to acrylate polymers with enhanced thermal stability, while its mono-functionality minimises crosslinking in the resin. It is therefore recommended for paints and coatings that require some level of flexibility. It can also be used in urethane acrylates that require high elongation, or to improve ink and coating adhesions to polyolefins.

Comprehensive chemical data and safety data are available click here

Chemical Names

Chemical Names: IBOA, Isobornyl acrylate, QM 589, SR 506, 5888-33-5, Exo-1,7,7-Trimethylbicyclo(2.2.1)hept-2-yl acrylate

CAS Number: 5888-33-5

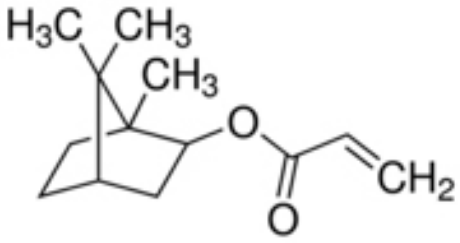
PubChem CID: 93013

EC Number: 227-561-6

MDL Number: MFCD00080424

Molecular Formula: $C_{13}H_{20}O_2$

Molecular Weight: 208.301 g/mol



Consumer Uses

- Adhesives and Sealants in medical devices and other
- Agricultural products (non-pesticidal)
- Ink
- Toner
- Colourant products
- Paints and Coatings
- Plastic and Rubber products

IBOA is characterized by:

- Low viscosity
- Wide range of compatibility with oligomers
- Low colour

UV/EB - curable formulated products containing IBOA are characterised by:

- Good flexibility
- Increased Tg thermal resistance
- Low shrinkage
- Improved water resistance

The actual properties of UV/EB - cured products also depend on the selection of other formulation components such as oligomers, additives and photo-initiators.

IBOA can be used in UV/EB - curing formulations to provide significant viscosity reduction while maintaining both hardness and flexibility.

Warnings

As a chemical, Isobornyl acrylate has been characterised with a long list of warnings as a hazardous chemical.

- Skin irritation
- Allergic skin reaction
- Respiratory tract irritation
- Serious eye irritation
- Respiratory irritation
- Toxic to aquatic life

Industry Uses

IBOA is recommended for:

- Coatings requiring flexibility with hardness & thermal resistance.
- Maintaining high elongation in urethane acrylates.
- Screen inks and coating requiring increased adhesion to polyolefins.
- Adhesives and sealant chemicals
- Intermediates
- Photosensitive chemicals
- Pigments
- Solvents (which become part of the product formulation or mixture).

The Contact Hapten (Allergen)

Glucose monitoring systems, such as the FreeStyle® Libre, are innovative medical devices developed for diabetes patients as a replacement for classic glucose meters. Their use thereby eliminates the hurdles of traditional glucose monitoring and requires no routine fingersticks or fingerstick calibrations.
It is estimated that more than 400,000 people are using FreeStyle® Libre. Shortly after the first glucose monitoring systems appeared on the market, the first concerns about adverse skin reactions were raised.

For a long time the actual substance that caused these skin reactions with, for example, the Freestyle® Libre could not be identified; however recently Belgian and Swedish dermatologists have reported that the majority of their patients that have developed a contact allergy while using its glucose monitoring system react sensitively to a specific acrylate, that is, isobornyl acrylate (IBOA). Subsequently they showed by means of gas chromatography mass spectrometry (GCMS) that this substance is present in the case of the glucose sensor attached by an adhesive to the skin.

Cases of allergic contact dermatitis caused by FreeStyle® Libre are increasingly being observed and further reports have also shown that IBOA is present in new tubeless insulin pumps such as the OmniPod®, thereby causing new cases of contact allergy.

Patch Test Hapten (Allergen)

The crucial point is that IBOA is not included in any standard screening panels. Therefore, IBOA sensitivity would be missed from such patch testing.

IBOA is now available from Chemotechnique, with article number I-019. The hapten is presented at 0.1% concentration in petrolatum. The shelf life from date of manufacture is 24 months.

More information on IBOA is available in the Chemotechnique website at: www.chemotechnique.se or contact info@chemotechnique.se

Patch testing should be a routine diagnostic procedure in children with eczema

By Radoslaw Spiewak

The possibility of children being ill with allergic contact dermatitis (ACD) has been known for more than eight decades now, with a first comprehensive case series published by Osborne and Walker in 1938. For most of the time, however, the relevant topic seemed neglected with focus on food-related eczema, rather than on dermatitis caused by environmental haptens. The topic of ACD in children was discussed in literature only sporadically over the following half a century. To my best knowledge, the first patch test study of consecutive children with eczema was published by Luis Webb Hill, one of the "founding fathers" of pediatric allergy in the USA. In his first consecutive series of patients, he diagnosed ACD in 20%, as compared to 67% with atopic dermatitis (Hill 1942).
Seventeen years later the rate of ACD rose already to 26% (Hill 1959). As he pointed out: "Most of these children had been previously treated by dietetic measures without benefit". It seems that this described pattern remained dominant over the following decades with overstressing the role of food allergy in eczema and neglecting the role of external contact sensitisers. The possibility of ACD has been only very slowly getting into the collective awareness of doctors managing eczema in children, despite the fact that the prevalence of contact allergy and ACD among children and adolescents has sharply risen from Hill's times. In one recent cross-sectional study, 67% of children and 57%, of adolescents with eczema were patch test-positive. Among 7-year olds, atopic dermatitis (AD) was diagnosed in 55% while ACD was in 38% (co-morbidity in 18%); among 16-year olds, the figures were 30% for AD and 52% for ACD, with an overlap of 22% (Czarnobilska et al. 2011).

Luckily, the long-overdue recognition of allergic contact dermatitis as a frequent disease in children is happening right now, with present ESCD (European Society of Contact Dermatitis) guidelines on patch testing stating unequivocally that "patch testing in children is considered to be safe, and is recommended when allergic contact matitis is suspected or needs to be excluded, as in adults" (Johansen et al. 2015).In practical terms, this means that any child with chronic or recurrent eczema should undergo patch testing, because 1) ACD is an obligatory differential diagnosis to any other diseases from the broad spectrum of dermatitis/eczema, and 2) ACD may arise due to a secondary contact sensitisation to topical drugs, skincare products and other contactants in the course of primary disease. Also, Allergy specialists seem nowadays to have recognised the importance of testing children for contact allergy, as demonstrated by the publication of EAACI (European Academy of Allergy and Clinical Immunology) position paper on practical patch testing in ACD in children (de Waard-van der Spek et al. 2015).

A misleading association of flexural eczema as the alleged hallmark of at-

opic dermatitis should be abandoned, as there are more inflammatory skin diseases that show predilection to flexures (Jacob et al. 2015). In a cross-sectional study of primary school pupils, 20% of children (7y.o.) and 52% of adolescents (16 y.o.) with flexural eczema were ultimately diagnosed with ACD, while atopic dermatitis was ruled out (Czarnobilska et al. 2011). There is no age limit for patch testing in children, however, it seems this is rarely needed in the first 6 months of life. Among the limiting factors in infants and children are;

• The small size of the child may limit the number of haptens tested in one session. In our practice, however, in most children aged 1 year, we are able to place 3-4 patch test units (that is, 30-40 test substances) on the child's back, as shown in the photograph below.

• The above-mentioned limit leads to the question of what to test in children.

European or national baseline series seem the best starting point, supplemented with other haptens selected on the basis of careful history-taking (preferred activities, kindergarten, school, home exposures, parental/caregiver exposures - both occupational and pastime).
A crucial element of patch testing is topical drugs (steroids, antibiotics, other) as well as skin care products (cleansing, emollients, other cosmetics) of the patient. Own topical products are frequent cau ses for allergic contact dermatitis.

• Children may be difficult collaborators, as they lack the self-control needed in a test that is bound to cause some discomfort and lasts an entire week. Patch tests are not painful, but most children have already heard this claim during previous medical procedures; therefore such a declaration may have a triggering, rather than calming effect in some children. An obvious disadvantage is that the more uncomfortable procedures are at the beginning (placing of the testing units and their removal 2 days later), thus the resistance in the child may grow over time. However, with some team work involving parents and collaborators, the completion of patch tests is easily possible in most children, though some may not retain the fondest memories from the procedure.

• Children are more prone to irritant skin reactions, which may increase the risk of false positive readings, especially when carried out by a less experienced doctor. There were suggestions of lowering concentrations of haptens with known irritant properties (e.g. nickel sulfate down to 1-2% pet.). Doctors who only patch-test children might consider this in their patch test series, however, validation data are scarce for such modifications. A reasonable and viable option in centres dealing with mixed populations (children and adults) would be keeping to the original concentrations while always bearing in mind the increased risk of irritant reactions with children.

• The best remedy against mistaking irritant reactions for allergic reaction is in my opinion a careful observation (at least 3 readings over a 7-day period) by a well-trained and experienced doctor and an obligatory, careful assessment of the clinical relevance of any positive test reaction. One has to be aware of the fundamental difference between the intensity (as expressed in the widely-known ICDRG scale) and the relevance of a patch test reaction: There may be strong patch test reactions that ultimately turn out to be not relevant for the present disease, and weak reactions that are of current relevance (i.e. the actual triggers of the present disease). A fast and simple scale that helps with the assessment of the clinical relevance is the simplified CODEX scale (on the next page).

CODE	DEFINITION
C (Current)	Patient has been exposed to the hapten prior to the current episode of dermatitis; improvement of the disease after cessation of exposure
O (Old)	Past episode of dermatitis from exposure to the hapten; no present exposure or no reactions to present exposures
D (Don't Know)	Relevance difficult to asses; no traceable relationship between the hapten and present disease.
E (Exposed)	History of previous exposures which, however, seemed to cause dermatitis
X (Cross - Reaction)	Positive due to structural similarity with other hapten of actual relevance

Table: The simple and practical CODEX system for assigning relevance to positive patch test reactions (Spiewak, 2018)

In summarising, children with chronic or recurrent dermatitis may greatly benefit from patch tests by receiving the ultimate diagnosis of their primary or secondary dermatitis. The identification of causative sensitisers helps the patients to avoid relapses or aggravations of their disease.
Therefore, every doctor taking care of children with skin diseases from the dermatitis/eczema spectrum should carry out patch tests, or refer their patient to undergo this procedure in another clinic.

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12 Chemotechnique Staff Interview

Interview with **Bo Niklasson**
CEO *Chemotechnique MB Diagnostics AB*

Who are you?

*My name is **Bo Niklasson**. I am the founder along with my wife Marie, and **CEO of Chemotechnique MB Diagnostics AB**, a dog owner, wine lover and father of two.*

How did you first come into contact with patch testing?

*In 1978 Professor Bertil Magnusson and Professor Bert Björkner offered me the position of chemist at the laboratory of the new Department of Occupational Dermatology at the University Hospital in Malmö. During these early years of the Department of Occupational Dermatology I was not only introduced to patch testing but also involved in many research projects working with, and identifying, culprit substances, both from industry use and patient's own products. My background from not only in chemistry but also in biomedicine proved valuable when combined with the clinical work in the hospital, and allowed me to refine the processes of how to prepare and create hapten substances and how to screen for haptens in patient products. I have since then been given the opportunity to share my findings from this period in the books **Practical Contact Dermatitis: A Handbook for the Practitioner** (Jere D. Guin, 1995, McGraw-Hill), Handbook of Occupational Dermatology (L. Kanerva, P. Elsner, J.E. Wahlberg and H.I. Maibach, 2000, Springer) and* **Common Contact Allergens: A Practical Guide to Detecting Contact Dermatitis** *(McFadden, Pongpairoj, Puangpet, Thaiwat and Xian Leem, 2019, Wiley).*

How come you started your own company?

*In 1981 a series of events unfolded that would be the starting point for Chemotechnique as it stands today. The department was planning to conduct, along with other Swedish hospitals, a multicentre clinical trial of a new test series of haptens for diagnosing contact allergy due to exposure to various dental materials. However, the legal and practical implications of a department laboratory producing hapten preparations for multicentre studies proved to be insurmountable and the haptens needed could not be acquired from the only other hapten producing source at that time, Copenhagen - based pharmacist Karen Trolle-Lassen (**Trolab**). As a result, we discussed alternate ways to establish a secure hapten provision for the study. With the blessing of my employer and the legal department of the hospital, Kemoteknik (renamed Chemotechnique MB Diagnostics AB in 1984), saw the light of day. Soon after registration the first ever Dental Screening Series was produced and the result of the study was published in **Contact Dermatitis.***

How was managing Chemotechnique as a side business?

The years following the creation of the company was hard work. My wife Marie and I, like many other entrepreneurs before us, housed the company in the basement of our house and tended to the business alongside our paid work. As I worked at the department, Marie was the one who run the business daytime and I joined in the evenings focusing on production. The range of commercially available haptens produced by Trolab during the 80's was very limited and as contact allergy awareness was growing we were kept busy. Although the working days were long and arduous, it was with great dedication we ran the business and developed new hapten preparations and test series. As we continued research and development, the range expanded year by year. Together we focused on building the business for the future. Over time the business outgrew the basement and we hired of first employee who is still with us after more than 35 years.

The Chemotechnique products are today found worldwide. When did the shift happen from local to global?

*The co-operation with progressive research groups such as the **ICDRG**, **EECDRG** and the **NACDG** paired with our introduction of state-of-the-art Patch Test Units, the IQ chambers, the international reach of Chemotechnique expanded by the late eighties and early nineties. Being present at international symposia and conventions allowed for networking and face-to-face meetings with world renowned physicians and industry people alike. With distribution soon in the Netherlands, Belgium, UK and in North America the company steadily expanded. At this point I was still working part time at the Department of Occupational and Environmental Dermatology, but in 1995 I had to resign as time just wasn't enough to allow for the dual undertakings. I am still grateful for the 17 years I served at the clinic and thankful for all the valuable time that I spent with colleagues, involved in the patient investigations and research work that resulted in many publications over the years.*

You told me that the company first started in your basement. Where is it located today?

*As the company grew the production facilities needed to be larger as well. After having shifted locations several times within the **Malmö** area over the years, the company today resides in a modern 1,700 sqm industrial building in Vellinge, just south of Malmö. The room that houses the automatic syringe filler today is by itself larger than the 30 sqm basement the company started operations in. The continuous growth in number of staff in the laboratory, the medical device department and the order & customer service section have all been a pleasure to follow. I greatly value the hard work and contributions provided by my co-workers to the development of the business. During many years, a lot of money, energy and time have been invested in developing new methods and setting up new equipment in the laboratory for production and analysis. The continuous work in research and development of new test substances has resulted in the widest range of commercially available haptens, now covering over 550 test preparations, and new material will be added continually depending on the needs of the dermatology field.*

Impressive! What are your goals for the years to come?

My mission and dedication to the field of contact allergy has been, and will continue to be, to serve all those hard-working physicians with the diagnostic tools they need to make a correct diagnosis, all for the benefit of the patients whom we are all ultimately there for.

Thank you, Bo, for taking the time to answer these questions.

Prevalence of contact allergy in the general population: A systematic review and meta-analysis

by

Farzad Alinaghi, Niels H. Bennike, Alexander Egeberg, Jacob P Thyssen, Jeanne D. Johansen

in

Contact Dermatitis. 2019; 80: 77-85

Although the patch test has been used in a clinical setting for more than a century it is vitally important for the ongoing review of the prevalence of clinical sensitivities to various contact haptens in different populations around the world. In the global environment of ever-more chemicals and ever-increasing regulatory legislation to protect the health of citizens, then known sensitisers and potential future sensitisers must be investigated and documented and analysed.

The authors have previously in 2007 reviewed prevalence data from multiple international and national studies, and with this new review have brought the information up to date.
There were included a total of 28 studies encompassing >20,000 patch tested individuals from the general population, and for metal allergy there were 44 studies based on >34,000 individuals.

This study highlights the need for more effective prevention strategies for common allergenic compounds in consumer goods, cosmetics, and the workplace.

Screening of contact allergy in the general population remains a valuable tool and plays an essential role in the surveillance of national and international contact allergy epidemics.

Some interesting facts and figures are stated below:

- **20% of the general population are contact allergic to various chemical haptens**, with this figure being not only remarkably constant over recent years but also constant between populations in different continents (though data is poor outside Europe and USA).

- **The prevalence data may be understated as not all contact haptens were tested**; just those patients in the general population tested with a reasonable baseline series such as at least the European Baseline Series.

There were also several other factors that may have caused an underestimate of prevalence; for example:

» Not all prevalent contact allergens were included in the meta-analysis, such as MI, FM II, acrylates.
» The Readings were made on Day 2 or Day 3 and so may have missed any late phase reactions

- **The prevalence in adolescents was almost the same as for adults**. The most common sensitisers for adolescents are jewellery, perfumes, shoes, preservatives and cosmetic products.

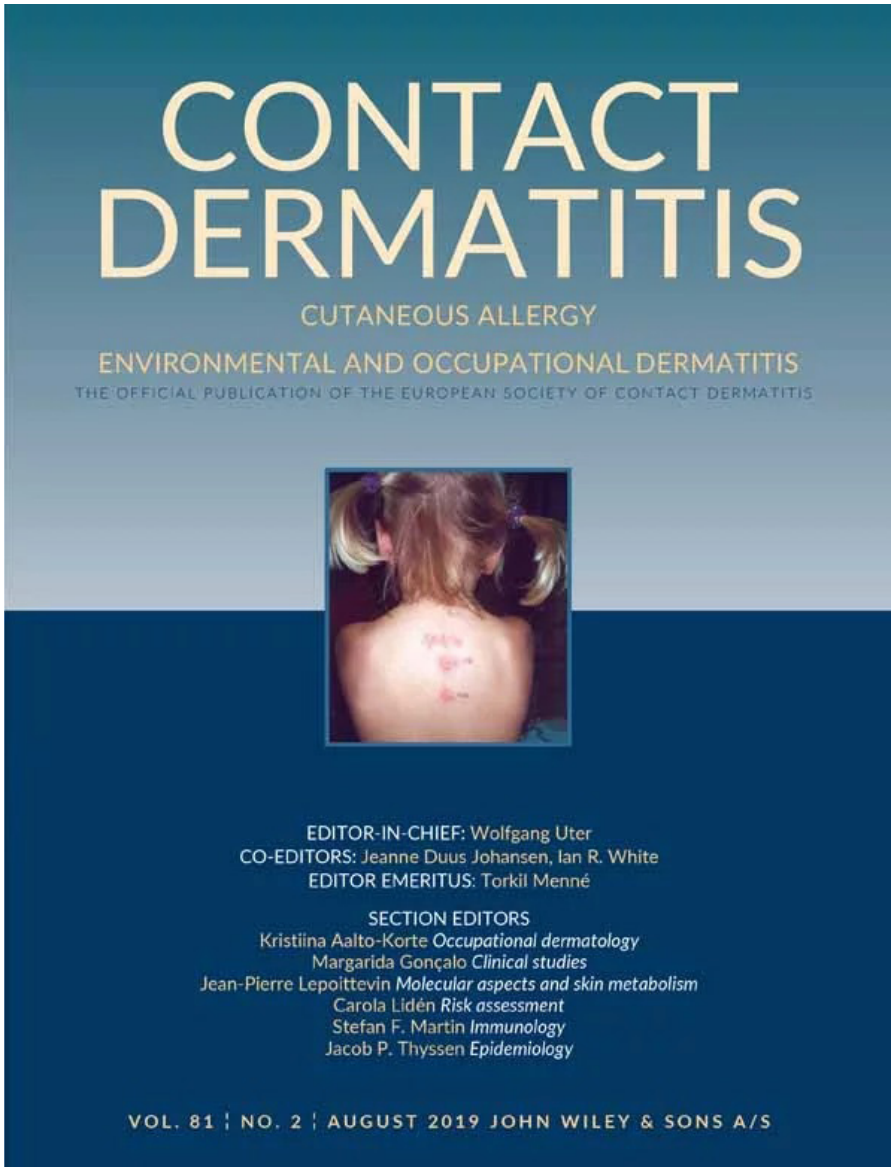
- The most frequently encountered contact haptens are as follows:

»	1. Nickel:	11.4% overall, 15.7% in women, 4.3% in men
»	2. Fragrance Mix I:	3.5% overall, 3.4% in women, 2.9% in men
»	3. Cobalt:	2.7% overall, 3.3% in women, 2.1% in men
»	4. Myroxylon perairae:	1.8% overall, 1.7% in women, 1.6% in men
»	5. Chromium:	1.8% overall, 1.7% in men, 1.7% in women
»	6. PPD:	1.5% overall, 1.3% in women, 1.7% in men
»	7. MCI/MI:	1.5% overall
»	8. Colophonium:	1.3% overall, 1.0% in women, 0.9% in men
»	9. Formaldehyde:	1.2% overall, 0.9% in women, 1.0% in men
»	10. PTBP-FR:	1.2% overall, 1.3% in women, 1.3% in men.

Despite several regulatory interventions, the continued high prevalence of nickel allergy in the general population shows the need for sustained efforts to reduce the occurrence of nickel contac t allergy. In contrast to the situation for nickel and chromium, no regulation yet exists for the use of cobalt despite it being the second most common metal hapten.

Fragrance Mix I was the second most common hapten overall, suggesting that its occurrence is becoming more of an endemic phenomenon. Furthermore, this estimation is most probably a significant underestimate of the importance of fragrances as FM1 covers only 8 of 82 known fragrance haptens known to cause sensitivity in humans. Patch testing with the 26 fragrance ingredients with mandatory labelling according to the EU captures nearly 40% more cases than does testing with FM I alone. Testing with FM II is involved in nearly 30% of cases of contact sensitization to fragrances, with a 1.9% prevalence in the general population.

Dear Reader, if you have any particular article or book or website that you would like to have reviewed in a future issue of The Patch Tester, then please contact the Editor here.



Website Review

You are invited to notify us If there is a website you would like to have reviewed in a future issue of The Patch Tester or if there is a society or other website that you would like to have included in these lists.

Dermatology Society Websites

ILDS:	*International League of Dermatology Societies*	www.ilds.org
ICDRG:	*International Contact Dermatitis Research Group*	www.icdrg.org
EADV:	*European Academy of Dermatology & Venerology*	www.eadv.org
ESCD:	*European Society of Contact Dermatitis*	www.escd.org
ACDS:	*American Contact Dermatitis Society*	www.contactderm.org
APEODS:	*Asia-Pacific Envmntl & Occupational Dermatology Society*	www.apeods.org
EAACI SAM:	*European Academy of Allergy & Clinical Immunology*	www.eaaci.org
BAD:	*British Association of Dermatology*	www.badannualmeeting.co.uk
AAD:	*American Academy of Dermatology*	www.aad.org
PDA:	*Pacific Dermatololologic Association*	www.pacificderm.org
APD:	*Association of Dermatology Professors*	www.dermatologyprofessors.org
NDA:	*Nordic Dermatology Association*	www.nordicdermatology.com
GDA:	*German Dermatology Society*	www.derma.de
FSA:	*French Society of Dermatology*	www.sfdermato.org
CDA:	*Caribbean Dermatology Association*	www.caribbeanderm.org
ACD:	*Australian College of Dermatologists*	www.dermcoll.edu.au
NZDS:	*New Zealand Dermatology Society*	www.nzdsi.org
DNA:	*Dermatology Nurses Association*	www.dnanurse.org
DermaNET NZ:	*Dermatology Infomation Resource for Patients*	www.dermnetnz.org

European Society of Contact Dermatitis

www.escd.org

The European Society of Contact Dermatitis is the natural home-base for all patch testers located in Europe and is also used by many others around the world as one of the handful of premier websites dedicated to all things Contact Dermatitis.

The ESCD promotes interest, stimulates research and disseminates information on all aspects of contact dermatitis and other environmental and occupational skin diseases.

Although intended for use primarily by medical professionals, it can and is used by patients for their own research into their clinical condition. The section on “Contact Dermatitis” is obviously “tuned” for such readership. It is therefore a good information resource for recommendation by Patch Testers to their patients, alongside www.dermnetnz.org

International League of Dermatology Societies

www.ilds.org

The International League of Dermatology Societies is perhaps the best starting point to review all the national and international websites of professional dermatology societies, as it catalogues over 170 different Dermatology Societies from more than 80 countries and representing over 200,000 Dermatologists around the world.

The ILDS Secretariat is based in London UK and is registered as a not-for-profit charity.

The website structure is the classical lists of “About Us”, “Our Members”, “What We do”, “Our Foundation”, “News”, “Events” and “Resource Centre”; with of course the obligatory “Contact”, “Member Login” and “Search” facilities.

Two very useful features are the directory of Dermatology societies and the directory of individual Dermatologist members.

The AAD in Denver 2020

Contact Dermatitis / Patch Testing

19th March 2020
ACDS 31st Annual Meeting
Denver, Colorado, USA
www.contactderm.org/meetings/acds-annual-meeting

17th - 20th June 2020
ESCD Congress
Amsterdam, Netherlands
www.contactderm.org

Dermatology - International

28th – 30th November 2019
ISMA Molecular Allergology
EAACI focussed congress
Amsterdam, Netherlands
www.eaaci.org/focussed-meetings/isma-2019

16th - 18th March 2020;
Dubai Derma
Dubai. UAE
www.dubaiderma.com

20th - 24th March 2020;
American Academy of Dermatology
Denver, Colorado, USA
www.aad.org/member/meetings/am2020

20th - 21st May 2020
IDC 2020 2nd Edition of International Conference on Dermatology and Cosmetology
Tokyo, Japan
www.dermatology-conferences.com

13th - 14th April 2020
15th International Conference on Dermatology and Cosmetic Medicine
London, UK.
www.dermatologymeeting.com

April 30th - 2nd May 2020
16th EADV Spring Symposium
Oporto, Portugal
www.eadvporto2020.org

20th – 24th March 2020
American Academy of Dermatology
Denver, Colorado, USA
www.aad-soso.org

6th – 9th June 2020
EAACI European Academy of Allergy & Clinical Immunology.
Annual Congress
London, UK.
www.eaaci.org/eaaci-congresses/eaaci-2021

Dermatology Meeting Websites

www.eadv.org
www.aad.org
www.dermatologymeeting.com
www.asiaderma.sg
www.dubaiderma.com
www.cairoderma.com