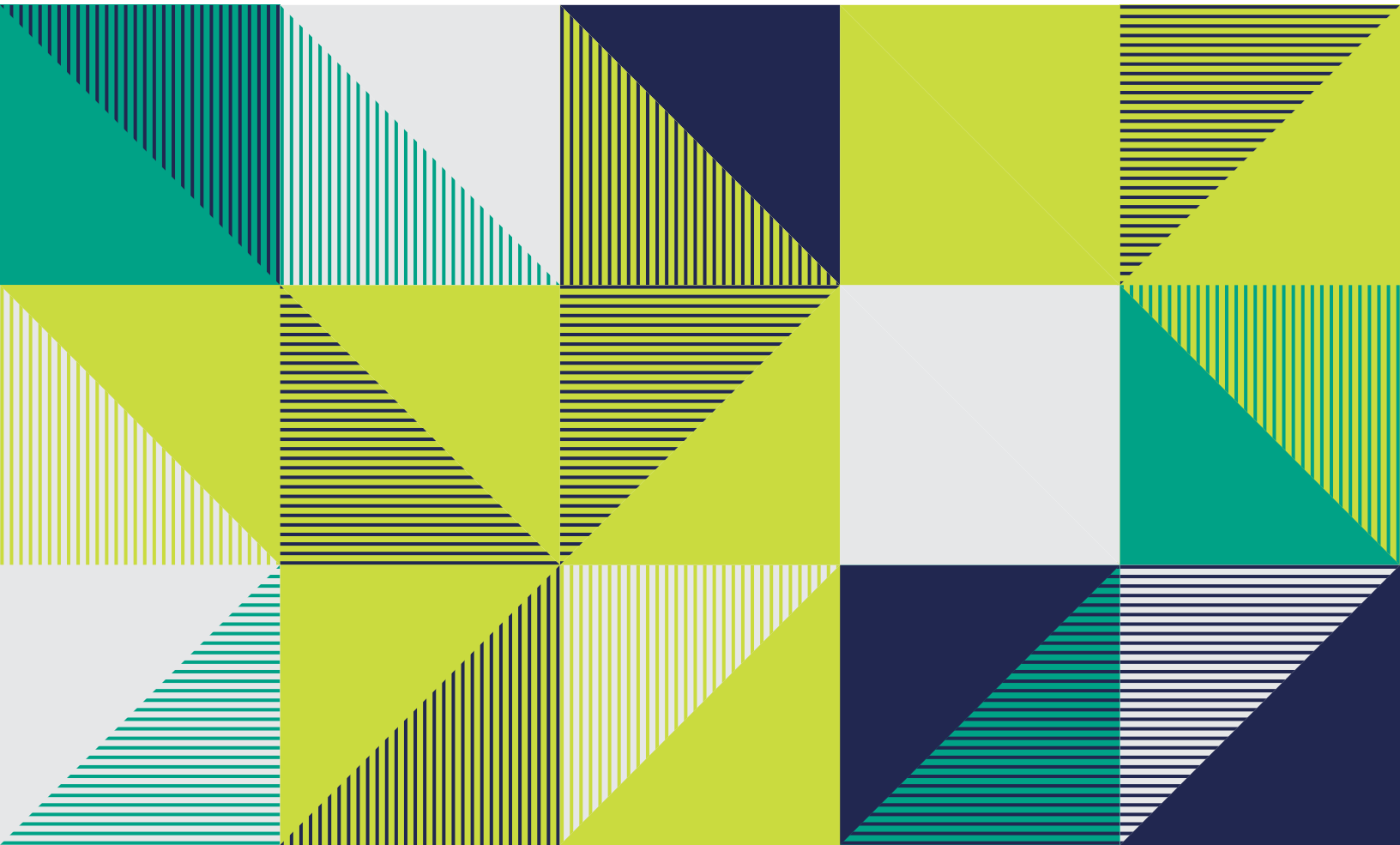




For environmental  
occupational health  
safe and responsible use

# Rotterdam Convention

## COP-11 MEETING - 2023



 [TheTruthAboutChrysotile](#)

 [Chrysotile\\_truth](#)

 [Chrysotile\\_truth](#)

## WORLD HEALTH ORGANIZATION – WORLD HEALTH ASSEMBLY (2007)

RESOLUTIONS AND DECISIONS – PAGES 96-100, ITEM 10, GLOBAL ACTION PLAN  
ON WORKER'S HEALTH 2008-2017

“WHO will work with Members States to strengthen the capacities of the ministries of health to provide leadership for activities to workers' health, to formulate and implement policies and action plans, and to stimulate intersectoral collaboration. Its activities will include global campaigns for elimination of asbestos-related diseases; **bearing in mind a differentiated approach to regulating its various forms**; in line with relevant international legal instruments and the latest evidence for effective interventions.”

[https://apps.who.int/gb/ebwha/pdf\\_files/WHASSA\\_WHA60-Rec1/E/WHASS1\\_WHA60REC1-en.pdf](https://apps.who.int/gb/ebwha/pdf_files/WHASSA_WHA60-Rec1/E/WHASS1_WHA60REC1-en.pdf)

## ILO-WHO: OUTLINE FOR THE DEVELOPMENT OF NATIONAL PROGRAMMES FOR ELIMINATION OF ASBESTOS-RELATED DISEASES (2007)

*Furthermore, to find wording about specific needs and conditions in the text of the Outline (Introduction, page 1): “Countries can adapt this document to the **specific national and local conditions and the available resources**”*

[https://www.who.int/occupational\\_health/publications/elim\\_asbestos\\_doc\\_en.pdf](https://www.who.int/occupational_health/publications/elim_asbestos_doc_en.pdf)

## ILO-INTERNATIONAL LABOUR ORGANIZATION (2017)

Asbestos Convention, 1986 (no 162) is an **up-to-date instrument** as determined by the ILO Governing Body in 2017 upon recommendation by the Standard Review Mechanism – Tripartite Working Group.

## ROTTERDAM CONVENTION (2023)

Chrysotile-asbestos **is not** in the Prior Informed Consent list (PIC List) of banned and severely restricted chemicals.

**After many frustrated attempts, where consensus has not been reached, the 165 Parties of the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade will again deal with the inclusion of chrysotile in the Prior Informed Consent List (PIC List), during the Conference of the Parties (COP 11 in Geneva in 2023).**

**There is no new scientific evidence justifying a change in the position taken before.**

The Convention must cease to be the anti-asbestos convention that it has unfortunately become. The Member States must retake control of what should never have stopped being: THEIR CONVENTION.

# **SAFE AND CONTROLLED USE**

**The latest scientific evidence published strongly supports the following views:**

1. Chrysotile is significantly less hazardous than the amphibole forms of asbestos (e.g. crocidolite and amosite).
2. When properly controlled and used, chrysotile in its modern day high-density non-friable applications does not present risks of any significance to the public and/or workers health.
3. Chrysotile under safe and controlled use is not responsible for mesothelioma.
4. The differentiation between amphiboles versus chrysotile lies in the policy of the international agencies (WHO, ILO) and the Rotterdam Convention.

# A RECALL

The fundamental issue regarding chrysotile that was discussed at the Rotterdam convention Conference of Parties (COP) since the beginning was the following: should chrysotile be designated as a dangerous substance and be subjected to the Prior Informed Consent (PIC) procedure when it is traded internationally? Ultimately, the COP could never reach consensus and the matter was always referred to the next COP to be held two years later. That has been the case for too many years. It is not serious.

Countries, led mainly by the European Union and Australia, have long been in favour of this option.

Another group of countries that represent some 70% of the world's population still use chrysotile and strongly believe this can be done safely. They are reluctant to submit international trade of chrysotile to a procedure they clearly deem redundant with other international agreements, such as Convention 162 of the International Labour Organization, and which thus becomes an unjustified impediment.

There are underlying economic issues here, since products competing with chrysotile are produced in the countries that are most strongly opposed to chrysotile.



Used in a controlled and responsible manner, chrysotile is fully in line with UN's Sustainable Development Goals. It is among the affordable solutions accessible to emerging countries to help the most vulnerable, building much-needed water infrastructures and roofing.

# THE CONVENTION RULE FOR INCLUSION ON THE PIC LIST

There are a number of requirements that must be met when countries propose including a product on the PIC list. These requirements include scientific studies to assess and scientifically demonstrate the actual risks and dangers associated with the product. All of this must accompany and support the request, which must never be frivolous. *It makes no sense that countries can return to COP meetings time and again with the same file without neither the Secretariat nor the Chemical Review Committee (CRC) requiring new data and/or studies with new science that would justify and allow for reversing a previous decision by the Conference.*

*To recall, the draft Decision – Guiding Document on chrysotile was produced by the CRC in 2005. This document aims at providing the 165 Parties (Member States) by 2023, with accurate information to take or not the decision to list chrysotile in Annex III. 18 years will have elapsed since 2005.*

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## The relentless battle against chrysotile has turned the Rotterdam Conference into an anti-asbestos conference.

The relentless battle against chrysotile over the course of numerous conferences of the parties since the Convention was established has turned the Rotterdam Conference into an anti-asbestos conference. It is essential that no file is brought back for further discussion without outdated scientific justification. A decision taken by the COP should be allowed to stand for at least five years, unless significant scientific discoveries render it necessary to resubmit the file to the Conference of the Parties for review.



# ROLE OF THE CRC TO BE REDEFINED

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**The CRC does not have the power to accept or refuse the inclusion of a chemical in Annex III; its only role is to make a recommendation.**

The text of the Rotterdam Convention gives to the Chemical Review Committee the mandate to review the national notifications which can trigger the listing mechanism. The members of the CRC, after the Secretariat has forwarded to them these notifications of Final Regulatory Actions (FRA), determine whether those national authorities that have banned or severely restricted a chemical at domestic level, have respected the conditions laid down in Annex II, particularly, whether or not a true risk evaluation has been made. After this review, the CRC issues an opinion and makes a recommendation. Only the parties participating in the COP conference have the power to decide by reaching a consensus, which is essential to any decision on inclusion, as provided for in very specific provisions. As with other international conventions, no agency or individual can oblige a country to officially adopt a position. This power rests exclusively with each participating member country.





# THE ROLE, THE MANDATE AND THE LIMITS OF THE CRC

## ARTICLE 5 - PROCEDURES FOR BANNED OR SEVERELY RESTRICTED CHEMICALS

1. Each Party that has adopted a final regulatory action shall notify the Secretariat in writing of such action. Such notification shall be made as soon as possible, and in any event no later than ninety days after the date on which the final regulatory action has taken effect, and shall contain the information required by Annex I, where available.
2. Each Party shall, at the date of entry into force of this Convention for it, notify the Secretariat in writing of its final regulatory actions in effect at that time, except that each Party that has submitted notifications of final regulatory actions under the Amended London Guidelines or the International Code of Conduct need not resubmit those notifications.
3. The Secretariat shall, as soon as possible, and in any event no later than six months after receipt of a notification under paragraphs 1 and 2, verify whether the notification contains the information required by Annex I. If the notification contains the information required, the Secretariat shall forthwith forward to all Parties a summary of the information received. If the notification does not contain the information required, it shall inform the notifying Party accordingly.
4. The Secretariat shall every six months communicate to the Parties a synopsis of the information received pursuant to paragraphs 1 and 2, including information regarding those notifications which do not contain all the information required by Annex I.
5. When the Secretariat has received at least one notification from each of two Prior Informed Consent regions regarding a particular chemical that it has verified meet the requirements of Annex I, it shall forward them to the Chemical Review Committee. The composition of the Prior Informed Consent regions shall be defined in a decision to be adopted by consensus at the first meeting of the Conference of the Parties.

## ANNEX II - CRITERIA FOR LISTING BANNED OR SEVERELY RESTRICTED CHEMICALS (SUMMARY)

In reviewing the notifications forwarded by the Secretariat pursuant to paragraph 5 of Article 5, the Chemical Review Committee shall (see summary below):

- (a) Confirm that the final regulatory action has been taken in order to protect human health or the environment;
- (b) Establish that the final regulatory action has been taken as a consequence of a risk evaluation. This evaluation shall be based on a review of scientific data in the context of the conditions prevailing in the Party in question.
- (c) Consider whether the final regulatory action provides a sufficiently broad basis to merit listing of the chemical in Annex III.
- (d) Take into account that intentional misuse is not in itself an adequate reason to list a chemical in Annex III.

For a complete list of criteria, visit: <http://www.pic.int/TheConvention/Overview/TextoftheConvention/tabid/1048/language/en-US/Default.aspx>

**The role of the CRC is perfectly described in the Treaty: meeting the criteria laid down in the Rotterdam Convention does not automatically mean that the substance must be listed in Annex III. This fact just triggers the procedure of making a recommendation by the CRC: Drafting the DGD (Decision Guidance Document), submitting this draft to the subsequent CRC for review and, if finally adopted, circulating this as a meeting document to all parties for consideration.**

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## **The CRC should never allow itself to be influenced by third parties in its deliberations.**

The CRC should be nothing more than a scientific review committee. It reviews the files submitted to it by the Secretariat, and its role should be limited to submitting a recommendation. Furthermore, the CRC should never allow itself to be influenced by third parties in its deliberations. It is a well-known fact that the CRC has often deliberated in the presence of groups representing the international anti-asbestos lobby, among others. This in and for itself poses a problem of credibility. This approach should be reviewed, and the Committee should take steps to avoid any undue influence, and any potential appearance of influence from organizations or individuals.

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## **It does not have the authority to judge a decision by the COP.**

Surprisingly, it has also been observed, particularly at the COP-7 meeting (2015), that several members of the CRC intervened to support the Secretariat, which was constantly butting heads with Member States that objected to including chrysotile fibre on the list of products to be banned, i.e., the PIC list. This is all the more worrisome since, sometimes, the Chairperson of the COP takes such a partial position against those countries opposed to the listing of a chemical. It is not (and should never be) the role nor the duty of members of the CRC to act in such a way, even if that is the wish of the Secretariat. Once the CRC has submitted its recommendation to the Secretariat, as required by the provisions of the Convention, the CRC's work is completed, and it is then duty bound to accept any or no consensus that may be obtained by the Member States. It does not have the authority to judge a decision by the COP.

It is therefore imperative that the operations of the CRC, including the conduct, mandate and role of its members, be reviewed in order to properly define its framework and boundaries.

# OPERATIONS SHOULD BE REVIEWED QUICKLY

The Convention Secretariat is also really flawed in terms of its operations. The Secretariat has too long accepted the influence of anti-asbestos activists. Numerous breaches of procedure have been observed: in terms of its conduct during COP meetings; in documents reporting on the conferences; during the nebulous technical workshop in March 2015; in the strategies used to prepare for COP meetings; and in the worrisome maneuvering during plenary sessions of COP conferences. Rather than listening to and accepting the will of the Member States with regard to the chrysotile file, it intervenes, influences and at times engages in what could only be called harassment. Actually, a physical harassment has even occurred during a COP meeting from observers representing the Australian Trade Unions against the representatives of the International Alliance of Chrysotile Trade Unions. This has been formally denounced to the Safety Department and duly stopped.

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## The Secretariat must now understand that its mandate is to ensure the operations of the Rotterdam Convention

The Secretariat cannot continue to unduly press for the inclusion of chrysotile in the PIC list. There can be no room for bias or manipulation. Guest speakers are invariably chosen who will lobby for inclusion of chrysotile. The Secretariat must now understand that its mandate is to ensure the operations of the Rotterdam Convention and to see that it is soundly, smoothly and transparently administered, as opposed to scheming with or providing a forum for anti-asbestos activists. The Member States provide the funding required to operate the Convention, and the Secretariat should conduct itself accordingly and recognize its duty to be accountable to the Member States. The anti-asbestos crusaders and the representatives of this powerful lobby, including those engaged in lawsuits, should not be allowed to influence the administration ad nauseam. In fact, they should be strictly prohibited from doing so.



# CHEMICAL “REVIEW” COMMITTEE WHICH DOES NOT DO JUSTICE TO ITS NAME

This statement could end with a worrisome situation where the Chemical Review Committee, a subsidiary body aimed at bringing good science to support decisions, would not do justice to its name, not only regarding chrysotile but also for all the chemicals already included in the PIC.

As stated in their own wording, the draft Decision Guidance Documents “are not intended as the only source of information on a chemical, **nor are they updated or revised** following its adoption by the COP”.

Furthermore, the final part of this statement shows a **blatant contradiction** with the role of a body called “review” Committee (review: to assess something with the intention of instituting **change** if necessary. - Oxford Dictionary).

For many years, COP Secretariat suggested that opposition to listing chrysotile to Annex III could stem from a lack of accessibility of the available information, given that chrysotile draft Decision Guidance Document is the **same since 2005**.

It is **striking** to notice that a “review” Committee prevents itself from any update or revision of its own documents.

Science evolves continuously. It is therefore difficult to understand how a regulatory instrument applicable to the trade of chemicals can properly work without a mechanism to bring up sound science to its decisions (the draft Decision Guidance Document being the **core piece** of the whole system).

Surprisingly, this “straitjacket” has not been established by the Rotterdam Convention, but it has been agreed and written by the Chemical Review Committee itself, “a *limited number of government-designated **experts** in chemicals management*”, and their neutrality should be questioned.

However, this anomaly is recent. References to the need to continuously update the scientific data exist in the voluntary system that preceded the Rotterdam Convention. The United Nations Environment Programme (UNEP) and the Food and Agriculture Organization of the United Nations (FAO) started developing and promoting voluntary information-exchange programmes. FAO launched its International Code of Conduct on the Distribution and Use of Pesticides in 1985 and UNEP set up the London Guidelines for the Exchange of Information on Chemicals in International Trade in 1987.





The London Guidelines set up an instrument to keep **under review the implementation of the Guidelines**, on the basis of periodic reports from designated national authorities and provide biennial reports on its effectiveness. Also, it provides technical assistance elements needed by developing countries as, for example, sharing information mechanism on **new** products and alternatives.

Furthermore, in the Code of Ethics on the International Trade of Chemicals of UNEP, it is settled that private sector and parties in cooperation with Governments and relevant international organizations should establish a procedure for **reviewing and revising the code**, as appropriate.

Not so far, it gives guidance for the implementation of the General Principles where it is easy to find callings for **update procedures, additional testing and revision assessment** and, even, **providing updated information and guidance**.

Since the Chemical Review Committee acts as a subsidiary body of the Conference of the Parties whose mission is to keep under continuous review and evaluation the implementation of the Convention, it can be affirmed that the draft Decision Guidance Documents produced by the Chemical Review Committee and supporting the chemicals already listed, are **not consistent** with the letter and the spirit of the Rotterdam Convention.



It is interesting to notice that the Rotterdam Convention is so **contradictory** since the clauses governing the preliminary stage of the procedure to include a chemical in Annex III differs from the final and crucial stage when the Parties take decision by consensus.

Indeed, while the Rotterdam Convention is unnecessary tight in describing how the administrative first stage of notification to the Secretariat should work, the wording becomes improperly vague when it is about assuring the Parties (the real decision-takers) to decide based on a proper and sound assessment of the data submitted.

Article 5 to 7 lay down the procedure.

According to article 5.1, the Parties must notify to the Secretariat the final regulatory action on a substance (i.e., to ban or severely restrict its use) *“not later than 90 days after it takes effect”* and following the requirements described in Annex I.

The Secretariat should, then, perform a compliance check *“as soon as possible and no later than 6 months”*.

For no apparent reason, this approach goes missing when it is about informing the Parties, the real decision-takers.

Too often, during the preliminary stage, the Rotterdam Convention introduces a limitation to the Parties since they just receive **“a summary”** of the whole information received by the Secretariat from the notifying Party, not the full picture.

The Secretariat has a permanent but limited obligation of *“communicating to the Parties, every six months, a synopsis of all the notifications received”*.

Finally, and most relevant, after preventing the Parties from having a complete set of data about a potential candidate substance to be listed in Annex III at the preliminary stage of the procedure, furthermore article 7.2 does not establish **any obligation to the Chemical Review Committee to forward in advance to the Parties the Decision Guidance Document of a substance**. Since this is the key document upon which the Parties must decide, the absence of a temporal clause (for example, 90 days in advance) does not assure the Parties of the power of making their work properly.



After continuous requests COP after COP, the need of a review of the chrysotile dossier clearly appeared for the first time in COP-5 (2011).

Unfortunately, the final outcome revealed a shameful maneuver to list chrysotile cost what it may. Among confusion, a draft decision was introduced at the end of the COP. It was not an approved one, but it was nevertheless included in the official report of COP-5 in view of further discussions.

The Convention Secretariat knows full well that, to add a chemical to the PIC List, two or more regions must submit a notification, complete with reports and data relevant to the evaluation of the risks and/or dangers of the chemical in question. The Chemical Review Committee must become acquainted with the scientific evidence as submitted in order to make a recommendation, which is then to be considered by the Conference of the Parties to the Rotterdam Convention.

The COP is the only authority empowered to make a decision in this regard. A consensus is required to include a chemical in the list, in accordance with the wishes of the Member States when the Convention was adopted. The provisions of the Convention are unequivocal on this point.

At one COP meeting after another over the years, Member States have failed to reach a consensus concerning the recommendation to include naturally occurring chrysotile fibre in the list of chemicals to be banned or severely restricted.

### **AT LAST A REVIEW ON CHRYSOTILE... BUT SUBJECT TO ITS LISTING!**

No scientific studies on the evaluation of the risks and dangers have been submitted, despite the requirement to do so under the Convention. The Secretariat and action groups pushing to have it put on the PIC List have themselves acknowledged the need for an in-depth scientific review of the chrysotile file.

It is astounding to notice that the Contact group report on the listing of chemicals tabled at the COP-5 meeting in 2011 acknowledged an essential need before deciding on whether to put chrysotile on the list. There was nevertheless a request filed prior to any study of this nature to secure acceptance for the listing of chrysotile. This was a huge trap and one that clearly indicates how little regard was given to the issue.

# TWO YEARS LATER...

## COP6: CONTACT GROUP ON LISTING CHEMICALS 2015

1. In 2013, the Chairman of COP-6 of Rotterdam Convention gave the mandate to the Contact group on listing chemicals to find a consensus on listing chrysotile asbestos based on the document UNEP/FAO/RC/COP6/12.
2. This document contains two draft decisions: one for listing chrysotile and the other on follow up actions by the Chemical Review Committee.
3. The second draft decision is a strange text prepared by the contact group – two years before in June 2011 – during COP-5 which was included in the final report, at the end of the discussion and in spite of Parties that voiced their opposition. Indeed, this second draft decision was highly confusing and had the false appearance that chrysotile had been already listed.
4. The Secretariat released document UNEP/FAO/RC/COP.6/12 in October 2012 as a meeting document containing the two draft decisions.
5. The Secretariat did not report fairly what was discussed in COP-5 where consensus on listing chrysotile **was not reached**.
6. The draft decision was a trap addressed to those Parties opposing the listing of chrysotile by making them a promise of a deep scientific review open to the participation of stakeholders if they accept the listing.
7. Such a review based on the new scientific evidence and current uses of the chrysotile fibre nowadays, is precisely what some Parties are, time and time again, requesting to the Chemical Review and the Conference since the first discussion.
8. But the slight difference is that a review must enlighten the Parties for a proper discussion before listing a substance and not afterwards.
9. The decision to list a substance belongs to the Conference of the Parties under the rules laid down by the Convention. The consensus rule cannot be kidnapped by means of refutable initiatives.
10. In these circumstances, **document UNEP/FAO/RC/COP.6/12 cannot serve anymore as a basis to find consensus since it does not record the true discussion during COP-5 and can be construed as a clumsy maneuver to reach consensus, whatever the cost.**



# REPORT COP-5 ROTTERDAM CONVENTION (GENEVA, 20-24 JUNE 2011) – PAGE 92

## CHRYSOTILE ASBESTOS

1. The following text was prepared by the contact group on candidate chemicals, on the understanding that the adoption of such a decision would be contingent on the Conference of the Parties agreeing to the listing of chrysotile asbestos in Annex III to the Convention.
2. As the Conference of the Parties did not list chrysotile asbestos in Annex III to the Rotterdam Convention at its fifth meeting, it agreed to annex the draft decision set out below to the present report for possible consideration at a future meeting.

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### Draft decision RC-[ / ]: [follow-up action by the chemical review committee on the listing of chrysotile asbestos in Annex III to the Rotterdam Convention]

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## SUBMISSION BY THE CONTACT GROUP ON CANDIDATE CHEMICALS

*The Conference of the Parties,*

**Having amended the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade to list chrysotile asbestos in Annex III to the Convention,**

*Recalling* Article 14 of the Convention,

*Recognizing* that the request for further action by the Chemical Review Committee with regard to chrysotile asbestos and its alternatives is exceptional,

*Recognizing* also the concerns expressed by a small number of parties regarding the scope of information made available through notifications of final regulatory actions and compiled in the decision guidance documents on chrysotile asbestos,

*Noting* that some parties have requested information on alternatives to chrysotile asbestos,

*Noting also that some parties have requested information on additional protective measures not considered to be bans or severe restrictions but nevertheless intended to limit exposure to and control the risks posed by chrysotile asbestos,*

*Bearing* in mind the capabilities of developing countries to manage risks and implement protective measures,

*Acknowledging* the potential role of the World Health Organization and other international organizations in contributing relevant information,

1. **Invites parties and interested stakeholders to provide information to the Secretariat on alternatives to and risk management measures for chrysotile asbestos;**
2. **Requests the Secretariat to compile and make available to the Chemical Review Committee and other interested stakeholders all information received in response to the invitation in paragraph 1 of the present decision;**
3. **Instructs the Chemical Review Committee to review the available information and report on the results of its work to the Conference of the Parties at its sixth meeting.**

# THE ROTTERDAM CONVENTION'S SECRETARIAT PASSES THE BUCK AND SHOWS ITS TRUE COLOURS

In June 2019, the Rotterdam Convention's Secretariat sent the ICA a letter in which it asked the Association to "*provide data on the international trade in chemicals recommended for listing in Annex III and to inform on the measurable impacts of listing chemicals.*" The letter was massively sent to all Parties, non-Parties, as well as to representatives of the industry, civil society, and other stakeholders as a call for information and follow up to Conference of the Parties at its ninth meeting (COP-9) held in Geneva in early May.

At that stage, there was no doubt that the deep frustration stemming from not having succeeded in getting chrysotile listed in this blacklist is the rationale behind this cynical initiative from the Secretariat (one former Secretary General made a Freudian slip at the official opening of one COP by referring to the... *chrysotile Convention*).

To sum it up, the Rotterdam Convention Secretariat asked the Association about the inconveniences that would result from placing chrysotile on the Prior Informed Consent (PIC) list, in other words, the procedure applicable to certain chemicals as per Annex II - *Criteria for listing BANNED or SEVERELY RESTRICTED chemicals In Annex III*. All criteria are listed and clearly established.

The matter has been extensively discussed by Member States for well over a decade and at numerous conferences, including the various Conference of Parties (COPs). The Secretariat had front row seats at each of them and was a privileged eyewitness. Moreover, participants could bear witness to the very obvious feeling of sympathy between Secretariat representatives and the position held by those from various European countries, Japan, Australia and Chile to name but a few. Furthermore, an embarrassing collaboration between the Convention staff and the anti-asbestos lobbies created an unhealthy environment, which allowed the anti-asbestos crusade to fully deploy, as it was able to use the Convention as a privileged and exceptional springboard to promote worldwide banishment of the serpentine fibre.

this machination for their request to the ICA to be in anyway credible.

In reality, the facts are simple: **all countries that have advocated for the inclusion of chrysotile have already banned it, and all countries against exclusion are currently using or producing chrysotile.** The latter represent two-thirds of the world's population, and they are acting as responsibly as any other country when it comes to making all necessary efforts to protect the health of the people and of the environment.

ICA finds inconceivable the request made by the Secretariat that it should explain what the inconveniences would be of having chrysotile added to the blacklist. The initiative is nothing more than a sad sham. ICA has no intention of re-hashing all the documents it has sent to the Secretariat nor to recall the statements made by its representatives during the few true discussions to which they have been invited (i.e. Riga Seminar, July 2016) over the course of the last ten years which clearly state, in great details, its objections and proposals. Furthermore, it has no intention whatsoever to pursue discussions with the Secretariat which have lasted long enough and have clearly shown that they lead nowhere.

Logically, since it supports the anti-asbestos crusade instead of keeping the neutral position that should characterize its work, it would be the Secretariat's responsibility to hold the burden of proof, that is, to explain how the inclusion of serpentine (chrysotile) would benefit this fibre on the world markets. It is up to the protagonists of a global banishment to explain and demonstrate that there is no relation between banishment and inclusion on the blacklist.

It should also be the Secretariat's responsibility to call the ultra-activists pushing for inclusion to order and to demand that, for once and for all, the lack of consensus among Parties which clearly emerged during COP meetings be respected.

The spirit and letter of both the Rotterdam Convention and the World Trade Organization Agreements leave no room for nonchalance, laissez-faire, bias, and much less favouritism. Each member State is free to make its own choices, priorities, and future without being subjected to threats, intimidation, or harassment from anyone. As well, international conventions' personnel and executives should be imputable to the true authority held by Member States as a whole as opposed to a handful of them.

For all these reasons, on October 7th, 2019, *ICA formerly notified the Secretariat* that it would not respond to its request.

Our organization has no intention to take on responsibilities which clearly are not part of its role. It is high time for the sad anti-chrysotile crusade to come to an end, and the will expressed on so many occasions by all user or producer countries should at long last receive as much attention from the Secretariat as that of countries in favor of inclusion. Their voice must be heard and respected.



**Mr Emiliano Alonso**

Chairman  
International Chrysotile Association  
E-mail: info@2019ica.com

Montreal, October 7, 2019

**Dr Rolph Payet**

Executive Secretary of the Basel, Rotterdam and Stockholm Conventions  
Secretariat of the Basel, Rotterdam and Stockholm Conventions  
E-mail: rolph.payet@brsmeas.org

**Mr Hans Dreyer**

Executive Secretary of the Rotterdam Convention - FAO  
Secretariat of the Rotterdam Convention - UNEP  
E-mail: AGP-Director@fao.org

Dear Dr Payet,  
Dear Mr Dreyer,

**Subject: Call for information and follow-up to the decisions adopted by the Conference of the Parties to the Rotterdam Convention at its ninth meeting (Geneva, Switzerland from 29 April to 10 May 2019).**

Last June, you send us a letter in which it requested to “provide data on the international trade in chemicals recommended for listing in Annex III and to inform on the measurable impacts of listing chemicals”. The letter covered other issues discussed during last COP-9 and was a call for information addressed to all Parties, non-Parties, as well as to representatives of the industry, civil society and other stakeholders of the Rotterdam Convention.

At this stage, there is no doubt that the frustration stemming from not having succeeded in getting chrysotile listed in Annex III is the rationale behind your initiative.

Concerning the International Chrysotile Association, the Rotterdam Convention Secretariat is asking us, using the wording ‘measurable effects, about the inconveniences that would result from placing chrysotile on the Prior Informed Consent (PIC) list, in other words, the procedure applicable to certain chemicals as per Annex II - *Criteria for listing BANNED or SEVERELY RESTRICTED chemicals in Annex III*. All criteria are listed and clearly established.

The matter has been discussed ad nauseam by Member States for more than a decade and at numerous conferences, including various Conference of the Parties (COPs).

The Secretariat has been fully aware of these discussions, and, to some extent, it has even shared the position held by some of the Parties, including numerous European countries, Japan, Australia and Chile, which, certainly, do not represent the stance of all Parties. Deepening on it, the Secretariat has not always held its due neutral stance, but, on the contrary, has been continuously collaborating with the anti-asbestos lobbies, which has created a favourable environment for them to arise and to use the Convention as an exceptional springboard from where to promote worldwide banishment of the serpentine fibre.

Therefore, it cannot be alleged by the Convention's senior executives and staff ignorance of this situation. They have been too close to this machination for their request to the ICA to be in any way credible. The current regulatory situation is simple: **all countries that have advocated for the inclusion of chrysotile in Annex III have already banned it, and all countries against banishment are currently using or producing chrysotile.** The latter's population represents two-thirds of humankind, and they are acting as responsibly as any other country when it comes to making all necessary efforts to protect the health of the people and of the environment.

ICA finds inconceivable the hypocritical request made by the Secretariat that we should explain what the inconveniences would be of having chrysotile included in Annex III. ICA has no intention of re-handling all the documents it has sent to the Secretariat nor to recall the findings outspokenly presented along the Intersessional work on the process of listing chemicals in Annex III to the Rotterdam Convention and particularly, during the few fora allowed for an open debate, such as the Riga Seminar in July 2016. ICA has therefore no intention whatsoever to pursue discussions with the Secretariat which have lasted long enough and have clearly shown that they lead nowhere.

Contrary to your approach, we understand that it would be the Secretariat's responsibility to hold the burden of proof, that is, to explain the '*measurable effects*' after listing a substance and, regarding the inclusion of serpentine (chrysotile), why and how the inclusion in Annex III would benefit this fibre on the world markets so needed to improve housing, water and sanitation for the most vulnerable. It is up to the protagonists of a global banishment to explain and demonstrate that there is no relation between banishment and inclusion on the blacklist.

It should also be the Secretariat's responsibility to call the activists pushing for inclusion to order and to demand that, once and for all, the lack of consensus among Member State is a consistent position of the Convention's Member States, which clearly emerged during COP meetings, and it shall be respected.

The spirit and letter of both the Rotterdam Convention and the rules governing the international trade leave no room for nonchalance, *laissez-faire*, bias, and, much less, favouritism. Each Member State is free to make its own choices, establish its priorities, and determine their future without being subjected to threats, intimidation or harassment from anyone.

For all these reasons, ICA will not respond to the Secretariat's request. Our organization has no intention to take on responsibilities which clearly are not part of its role. It is high time for the sad anti-chrysotile campaign to come to an end, and the will expressed on so many occasions by all user or producer countries should at long last receive as much attention from the Secretariat as that of countries in favor of inclusion. Their voice must be heard and respected.

Yours sincerely,

**Emiliano Alonso**  
Chairman

## **Subject: Rotterdam Convention. A message from ICA**

For the Secretariat of the Rotterdam Convention (COP-9), it has been the case too often since its inception, it finds itself in such a state of disruption that the instrument itself and - by way of consequence - those who are responsible for its work are once again discredited.

It is now quite obvious that many stakeholders seem to have completely forgotten the Convention's primary objective. First and foremost, wanted to put in place a procedure of information and consent for the international trade of certain chemical products and pesticides while taking into consideration the specific situation and needs of developing countries of transition economies.

The Convention aims to encourage the sharing of responsibilities and cooperation between Parties involved in the commerce of certain dangerous chemical products (...) through facilitating the exchange of information on their characteristics (...) and ensuring that its decisions are communicated to the Parties.

Nowhere in the Convention can a specification be found that would force the Parties to register on its "blacklist" a product, a substance or a mixture that can be used in a safe, controlled and responsible way.

Unfortunately, anti-asbestos radical played host to the sad performance by keeping COP conferences in anti-chrysotile activity. Yet, over the last decades, very few natural synthetic substances have been as thoroughly and scientifically studies, researched, evaluated around the world as the natural serpentine fibre known as chrysotile. Even rarer in the realm of international trade, few, if any products of fibres have been submitted to a programme of safe and responsible use as consistent and rigorous as the one devised and applied to chrysotile by the industry.

Chrysotile's safe use in a fact, not a myth. Its efficiency is recognized and its result, indisputable. Science has also confirmed that there are huge differences between the amphibole and serpentine fibres, whether from the point of view of their chemical structure or that of the true risk they pose to human health or the environment. This has been confirmed by numerous scientific studies, namely on the fibres' biopersistence.

Despite all this, throughout the COP-9 meeting, crusaders who want to include chrysotile on the "blacklist" once again maliciously refused to consider these facts and to recognize that only amphibole fibres should be banned, and not chrysotile, which should be controlled. They also kept silent on the obvious risks associated with the use of replacement products and fibres, whose degree of innocuousness have not been scientifically demonstrated. How sad!



This kind of disrespect for the science shows that those militants have also contempt for all countries that have rejected the inclusion of chrysotile in the list of banned products and for those who have refused to take position on this matter. Yet, together, these countries represent more than two thirds of humankind. They are countries who badly need a fibre such as chrysotile to improve the living conditions of their communities. Chrysotile is a fibre with important essential properties that can be used safely, and efficient and affordable product that responds to those countries' infrastructural needs.

Lastly, one can note a certain bitterness or disappointment as well as the importance given to the comments of Parties calling for inclusion while very little information is given on the numerous and informative objections made by participants who detailed the motives behind their objection to such inclusion.

**Nowadays, there is always some action groups ready to take advantage of the sometimes-chaotic situations commonplace during Rotterdam Convention COPs. For a long time, anti-asbestos vested interests worldwide have been using COP meetings as a springboard for their unhealthy crusades against chrysotile.**

**Implicitly, they are supporting the industrial producers of fibres that could replace chrysotile as used in various products. This support is well outside their supposedly holy mission of solely promoting the population's health and the environment.**

**This is a matter of real concern for all.**



# COP 11 SHOULD NOT BE ANOTHER ANTI-ASBESTOS CONFERENCE

During last COP-10 (July 2021 & June 2022), the contact group on the listing of chemicals was mandated to compile information on the concerns and challenges identified and on a possible way forward by Parties. This mandate covered chrysotile asbestos and other chemical recommended for listing and for which no consensus has been reached.

## **18 years, eight COPs...chrysotile out of COP-11 agenda in 2023?**

After 18 years of discussions and eight frustrated attempts to list chrysotile, during COP-10, the representative of Kazakhstan introduced a conference room paper containing a draft decision to remove chrysotile asbestos from the agenda of the next meeting of the Conference of the Parties. While a few representatives supported the submission by Kazakhstan, many, including one speaking on behalf of a group of countries, did not, saying that the Conference of the Parties had already agreed that chrysotile asbestos met the criteria for inclusion in Annex III and should continue to consider it for listing.

Following the discussion on the submission by Kazakhstan, given the lack of consensus on the inclusion of chrysotile asbestos in Annex III at the tenth meeting, the Conference of the Parties decided to defer further consideration of chrysotile asbestos to its eleventh meeting.

So yes, chrysotile asbestos will be, again, and for the ninth time along the same number of COPs in the agenda of COP-11, in May 2023.

Participants from Members States to the meetings of the Conference of Parties to the Rotterdam Convention have to realize that there was no possible consensus to be reached for the inclusion of the chrysotile asbestos fibre type on the blacklist as provided by the Convention's Annex III - Products to be banned or severely restricted from the international market. One has to realize once and for all that the world is not just there. More than three thirds of the humanity represented by their competent authorities made their voice loud and clear. ICA hopes that someone received the message.

Numerous authorities from different countries including ICA have really indicated to the Secretariat of the International Rotterdam Convention that a consensus for the inclusion of the chrysotile on the PIC list was not achievable and for a just and good cause. Let's mention two fundamental reasons.

The first is that reason has once again prevailed. For years, the Association has tirelessly pleaded in favor of an approach based on the most recent scientific research that clearly differentiates the very specific structure of the chrysotile fibre from that of other, amphibole fibres, and its considerably lower potential risks for human health. It has also unwaveringly reminded all parties of the potential risk posed by replacement products whose degree of hazardousness have not yet been determined through rigorous scientific testing.

Secondly, the spirit and letter of the Rotterdam Convention must be respected by all Members States. The fight to end the use of chrysotile has undermined the Convention and the Secretariat has accepted that the Convention turned itself into a mission against chrysotile. The message from numerous competent authorities is crystal clear. Propaganda, extrapolation, hypothesis, and lobster traps must cease and so being the end of the anti-asbestos Convention.

Furthermore, Conferences of the Parties time after time reaffirm that - regarding inclusion of new chemicals in Annex III - consensus is, and will remain, the one and only decision-making process endorsed by the Convention. Notwithstanding the efforts made by the Secretariat, whose preparatory note had chartered a narrow path towards inclusion of chrysotile in the PIC list, well-informed participants held their ground and clearly stated their belief that this natural fibre is and remains a useful and economical resource that can be used in a safe and responsible way.

This International Convention, as any other, belongs to its members (countries are the sole authorities) and should be acting accordingly. Activists and anti-asbestos lobby should not be considered anymore than stakeholders by the Secretariat.

# AHEAD OF MAY 2023 THE ROTTERDAM CONVENTION'S COP-11 AND THE MOZAMBIQUE AFFAIR

## REMINDER OF THE CONVENTION'S FUNCTIONING

Members representatives are the only participants allowed to make decisions during a Conference of the Parties. They have complete authority on deciding whether a product, substance or fiber should be included (or not) or excluded (or not) from the PIC list. Decision-making must be consensual, and countries are not required to justify their position. When a consensus cannot be reached, the file is closed. In such situation, submitting participants to any form of pressure, irrespective of its source, is unacceptable and contrary to all principles of sound management.

The case of the chrysotile fiber is a potent case in point. After 18 years the file is constantly back on the agenda even if all stakeholders know all too well that parties simply cannot make a decision on data, studies or document that are more than 18 years old. It is an aberration and unthinkable but nevertheless, the crusade continues.

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**When the Convention was written and adopted, signatory countries wanted to ensure that it could never be used as a propaganda tool and become a springboard for any type of disloyal competition from products, substances or fibers vying for shares of the international market.**

# MOZAMBIQUE'S DEMANDS

Since the very implementation of the Rotterdam Convention, the International Chrysotile Association has intervened to share its concerns about the very random operations of the Convention's Secretariat and the seriously problematic role the Chemical Review Committee (CRC) has assigned itself.

Our worries were, and still are, related to a lack of respect of both the spirit and the letter of the Convention, as adopted by Member States in September 1998. It is important to underline that the ICA has always privileged a collaborative approach – we would rather stretch out our hand than shake our fist. Our reasoning is straightforward. Above all, we want to contribute to the Convention's success on the world stage and to its efficiency, for all countries. The protection of human health and of the environment is at stake: those are and should be absolute priorities.

Alas, we must come to the conclusion that our message did not get through, which we deeply regret. The online 17th meeting of the Chemical Review Committee (CRC-17), which took place in September 2021, on the heels of the COP-10's online segment held two months earlier, in July, was a perfect case in point. Unfortunately, representatives from participating Member States were confronted to the fact that demands emanating from Mozambique (Final Regulatory Actions) were treated offhandedly and with no consideration for the requirements imposed by Member States when they wrote and adopted the Convention, which are detailed in Annex II. The Convention's wording is sufficiently clear for all to fully understand its scope. Member States are the Convention's sole authority and have the right to demand that all stakeholders, including, of course, the Convention's Secretariat and the CRC, perform their duties rigorously and in full respect of the Convention's spirit and letter.





The CRC and the Secretariat are well aware of the reasons why all concerns must be taken into consideration when countries require that a product, substance or fiber be included on the PIC list because their very banishment or severely restricted use are at stake. Member States have ensured that the Convention should be strictly applied, in particular with respect to the risk evaluation required from countries which are notifying on the basis of the letter B of the Convention's Annex II\* – and that all rules and procedures should be fully respected in order to ensure that the process is fair for all stakeholders.

Had the CRC and the Secretariat applied those well-established rules, Mozambique's requests would have never been discussed. They would have been rejected *ex officio* and classified as non-compliant, or inconsistent with the criteria required for their discussion. For this reason, some participants said that the fact that they were considered could be equated with imposture.

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## **\*ANNEX II ROTTERDAM CONVENTION**

In reviewing the notifications forwarded by the Secretariat pursuant to paragraph 5 of Article 5, the Chemical Review Committee shall:

(...)

- (b) Establish that the final regulatory action has been taken as a consequence of a risk evaluation. This evaluation shall be based on a review of scientific data in the context of the conditions prevailing in the Party in question. For this purpose, the documentation provided shall demonstrate that:
  - (i) Data have been generated according to scientifically recognized methods;
  - (ii) Data reviews have been performed and documented according to generally recognized scientific principles and procedures;
  - (iii) The final regulatory action was based on a risk evaluation involving prevailing conditions within the Party taking the action.

(...)



The Convention's strict respect would have required that at least two countries from two different regions submit a request for the same product and that each demand be accompanied by well-articulated scientific studies and data on the product's risk evaluation. Said research must prove that there is no alternative other than to add the product to the list of products that are either banned or whose sales are severely restricted.

If the CRC had followed that process during CRC-17, discussions would have been harmonious and respectful. Instead, numerous objections were raised, especially on the issues of the notifications' overall value and of the absence of high-quality risk evaluations, which are clearly required. Those issues contributed to deep divisions among participants.

Member States created a Convention on the use of pesticides and certain chemical products in which they established rules for stricter controls in any given country. They never entertained the notion that the Rotterdam Convention's mission should be to put the highest possible number of products on the list of products to be banned or severely restricted, and as expeditiously as possible.

Yet, the Secretariat has truly set for itself the goal of adding a maximum of products, substances or fibers on the PIC list. It has become quite

obvious that the very number of inscriptions on the list has become a priority, to the detriment of the quality of the work performed and often at the cost of a lack of respect of many of the Conventions' requirements, which are essential to its effectiveness and in accordance with the desire of the parties.

The inclusion of a product, substance or fiber can not be made lightly, on the sole basis of the mood of the Convention's administrators. Undue influences have no place in this process where administrative rigor and good faith are always a fundamental requirement. Furthermore, it must always be clear that authority lies with member States as a whole, that the Convention shall be respected at all times and that the Secretariat members' mandate, as well as that of the CRC, is to ensure that its spirit and letter are always abided by and to work tirelessly and openly for the Rotterdam Convention's success.

Unfortunately, the 'Mozambique affair' has been again, at the heart of the discussions held during CRC-18 held face-to-face in Roma in September 2022, without any significant development.

# GOOD REASONS TO KEEP CHRYSOTILE OUT OF THE PIC LIST

After numerous failed attempts, the recommendation to include chrysotile in the PIC list will be brought up again to the Conference of the Parties in 2023. Anti will never give up.

For a number of reasons, chrysotile must not be listed in Annex III:

1. Policy should be based on the best available information and science.
2. Developing countries will lack for a natural, energy-friendly and affordable fibres with unique properties.

Water and sanitation in poor and developing countries entail the construction of pipe infrastructure to improve the quality of life of millions of people.

## Chrysotile and post-COVID: helping the most vulnerable

In its September 2020 edition, the prestigious British medical scientific publication, The Lancet, on the occasion of this year's World Water Week (August 24-28) conference, draws its spotlights on the urgent need for a serious and responsible intervention in order to help emerging countries build sanitary and drinking water infrastructure.

Held in Stockholm, the virtual conference gathered scientists, business leaders, policy makers and civil society representatives. In its article, The Lancet recalls that a decade ago, the UN General Assembly had adopted Resolution 64/292, which recognizes that all humans have the right to acceptable, accessible, safe and sufficient water.

Since then, it seems, that little progress has been made. In fact, a study covering 88 low- and middle- income countries reveal

a rather grim picture, namely on the number of diarrhoeal deaths in children under 5 years old that could be attributed to the lack of safe water facilities. The COVID-19's very detrimental impacts have only added to those deplorable situations.

Chrysotile is among the affordable solutions accessible to emerging countries who want to build much needed water and sanitation infrastructures - as well as rooftops - to give their populations decent living and sanitary conditions. Chrysotile is a natural fibre whose exceptional qualities and efficiency have been demonstrated that it can be used in a safe and responsible way, both in terms of workers' health and the environment.

Notwithstanding the economic impact to the potential listing to the PIC list, the chrysotile industry has good reasons to continue fighting on the weight of scientific empirically based analysis referred to the **present** activities of extraction, transport and manufacturing.

Arguments like the clear differentiation with amphiboles in terms of carcinogenic potential, no more spray applications, 93% of chrysotile fibres used in cement, the existence of a safe threshold of exposure and the effectiveness of the controlled use support the conclusion that **chrysotile does not pose an unreasonable and unmanageable risk.**



It is not by chance that the Chemical Review Committee of the Rotterdam Convention, for many years, lacked consensus to decide to forward to the COP a proposal to list chrysotile in Annex III. The decision to recommend its inclusion in the PIC list was taken by a two-thirds majority vote. This bears witness to the **division among the scientific community**.

### 3. The inclusion in the PIC list is the waiting room for a worldwide ban

Almost all the substances that are in the PIC list are already banned. The wording of Annex II (“*Criteria for listing **banned** or severely restricted chemicals in Annex III*”) is self-explaining.

If chrysotile is listed one day this will seriously weaken the multi-pillar system at international level: ILO, WHO and Rotterdam Convention. The anti-asbestos lobbies have rapidly understood such a delicate and counterbalanced dynamic and started attacking in all fronts. For example, one of the reasons given by the ILO Employers Group to support ICA against the flawed 2006 Resolution was that chrysotile - contrary to amphiboles - was not listed in the Rotterdam Convention.

### 4. The current policy of the WHO and the ILO Convention nr. 162 contemplate the controlled use as one of the possibilities to protect the worker’s health.

As far as this policy remains, it will keep chrysotile’s balance and therefore it should contribute to support the pro-chrysotile Parties of the Rotterdam Convention to fight against the listing.

### 5. Listing chrysotile will lead to an unmanageable status in the international trade

The Prior Informed Consent label (PIC list) can generate red tape resulting in extra costs at ports and political interference from importing authorities. This inclusion in the list is a perverse machination to blacklist chrysotile so that it becomes in fact a ban.

The Secretariat of the Rotterdam Convention has reported experiences on implementation of the Convention in Asian countries. Those reports show **difficulties** in managing chemicals compared to pesticides, **bad quality** of documentation, **poor awareness** of the designated National Authorities and the **lack** of a proper information system.

## 6. Chrysotile is not a natural “client” of the Rotterdam Convention

Conceived at the beginning to manage the trading of pesticides for the agriculture, the Rotterdam Convention had moved on to cover chemicals including natural occurring substances like chrysotile, present in the atmosphere since the creation of the universe and founded in the soil of every continent.

The Rotterdam Convention is about protecting the environment and the human health from chemicals.

Chrysotile does not pose relevant problems to the environment and regarding the human health, there is a specific international instrument - the ILO Convention nr. 162 - covering the only risks that chrysotile entails: those which happen in the workplace.

## 7. Listing chrysotile would be discriminatory

Why silica has never been notified to the Secretariat of the Rotterdam Convention by the Parties? Is it a coincidence that EU 27 countries admit that employers and workers run a self-regulation of silica without any restrictive measure? What about the substitute fibres, that are taking the place in the market and have never been proven safer than chrysotile?

Just an example. Cellulose fibres have not been notified by any Party to be subject to the Prior Informed Consent. Moreover, the European producers benefit from a parallel system - REACH - where they perform the assessment of the chemicals they produce or import without any committee or similar system than Rotterdam Convention.

It is worth to notice that two of the notifying Parties that brought up chrysotile to the Secretariat of the Rotterdam Convention were Chile and the EU, which are major exporters of replacement products.



# IS IT WORKING?

## No detectable health risks when chrysotile is only used in compliance with low exposure limits

Numerous scientific studies have been published in recent years, which support that exposure to chrysotile that respects the occupational standard of  $\leq 1$  FCC is safe and, in particular that risk to health at this level of exposure is so low as not to be measurable.



$\leq 1$  F/CC

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**“The challenge today is whether regulatory agencies will use current scientific knowledge even though it will need a paradigm shift in long-held views on asbestos exposure and its implication for human health.”**

# 13<sup>th</sup> INTERNATIONAL CONFERENCE OF THE INTERNATIONAL MESOTHELIOMA INTEREST GROUP

## TOWARDS PERSONALIZED CARE

**iMig 2016**  
**MAY 1-4, 2016**  
**BIRMINGHAM, UK**

During the conference, clear statements have been made regarding the relationship between chrysotile and mesothelioma. It has been clearly stated that the mesothelioma observed was a consequence of heavy uncontrolled use of amphibole fibres exposure in the past until 1980.

It has also been indicated that the correlation must be made between mesothelioma and the use of amphiboles and not chrysotile. Dr. Peto informed the delegates that the science does not permit to say plainly anything and forever.

Scientists make presumptions based on evidence and he added that in this case he was obliged to declare that chrysotile should not be seen as the cause of increased mesothelioma rates in the UK. The statement, based on rigorous scientific research and evidence, caused visible frustration from a strong presence of anti-asbestos activists and lobbyists.

Many recent scientific publications are of great interest on this matter. However, all of them have been ignored or dismissed by anti-asbestos activists and the anti-asbestos lobby among others.



# COMMENTS ROTTERDAM CONVENTION COP11 - 2023

**David M. Bernstein, Ph.D.**  
Consultant in Toxicology

## **SCIENCE ON CHRYSOTILE 2003-2023: THE THREE 'D' FROM DOSE AND DURATION TO FIBER DIMENSION**

In the last 20 years numerous scientific studies have clearly differentiated the health effects of chrysotile from those of the amphibole asbestos types including crocidolite and amosite. These studies include epidemiological studies as well as sub-chronic inhalation toxicology studies and biopersistence studies. In addition, a recent review of the health effects of **short fibers of chrysotile and amphibole asbestos which has taken into account fiber exposure and dosing has also clearly differentiated that short fibers would have little if any effect, especially under controlled exposure or environmental conditions that may occur today**<sup>1</sup>. This review is of particular importance in that with current use of chrysotile the large majority of those fibers that could possibly be released into the air are short fibers.

Recent studies have greatly improved our understanding of the differential potency of chrysotile in comparison to amphibole asbestos. In the evaluation of fiber potency in human studies, one of the greatest difficulties has been to assess to which fibers the populations were actually exposed. Evaluations were often based on the use of optical PCOM measurements which did not differentiate fiber type.

Korchevskiy et al. (2019)<sup>2</sup> reported on the development of an empirical model that would reconstruct mesothelioma potency factors for various types of fibers based on their chemical composition and dimensionality. The authors modeled the mesothelioma potency factors estimated by Hodgson and Darnton method based upon the chemical composition and



dimensionality metrics (aspect ratios) for Quebec chrysotile, South Africa amosite, South Africa and Australian crocidolite, Russian anthophyllite, Libby amphiboles, and Turkey erionite. The aspect ratio of fibers and Mg fraction also predicted the model mesothelioma potency factor with good accuracy ( $R^2=0.988$ ). Through this analysis, the authors proposed the possibility that the biopersistence of asbestos fibers in the human respiratory system is approximately inversely proportional to magnesium content. Of the asbestos fibers, only chrysotile has a significant magnesium content with a corresponding low biopersistence.

Korchevskiy and Wylie (2021, 2022)<sup>3</sup> further assessed the carcinogenic potency of elongated amphibole particles using quantitative structure-activity relationships (QSAR) models. The mesothelioma and lung cancer potency of amphibole particles were modeled based on their dimensional characteristics and mineral

habit (asbestiform vs. non-asbestiform) using epidemiological data and detailed size information. Included in this analysis was particle-by-particle information for 77 datasets, including dimensionality information for 114,098 particles, covering data for 45 mineral type categories obtained using TEM. This analysis found that dimensional parameters and morphological habits are the main drivers for differentiating the cancer potency of amphibole elongated mineral particles. The mesothelioma potency was found to correlate best with specific surface area and lung cancer potency correlated best with particle aspect ratio.

#### **Differentiation chrysotile-amphiboles**

A recent sub-chronic inhalation toxicology study (Bernstein et al., 2021)<sup>4</sup> that evaluated the dose-response and fate in the lung and pleura of chrysotile-containing brake dust compared to  $TiO_2$ , chrysotile, crocidolite or amosite asbestos. The



study was designed such that following the 90-day exposure, subsets of animals were examined through their lifetime. The study demonstrated that **chrysotile was not biopersistent**, exhibiting in the lung a deterioration of its matrix which results in breakage into particles and short fibers which can be cleared by alveolar macrophages and which can continue to dissolve. Throughout the study particle-laden macrophage accumulation was observed, leading to a very-slight interstitial inflammatory. There was no exposure-related tumorigenic response. **The pathological response of crocidolite and amosite compared to the brake dust and chrysotile was clearly differentiated** by the histopathology and the confocal analysis. Crocidolite and amosite induced persistent inflammation, microgranulomas, persistent fibrosis, and a dose-related lung tumor response. Confocal microscopy quantified extensive inflammatory

response and collagen development in the lung, visceral and parietal pleura as well as pleural adhesions.

This study provides further confirmation of the lack of biopersistence of chrysotile that has been reported in studies of long fiber Canadian chrysotile<sup>5</sup>, calidria chrysotile<sup>6</sup>, Brazilian chrysotile<sup>7</sup> chrysotile used in joint compound<sup>8</sup>, and chrysotile used in brake pads<sup>9</sup>. All of these studies have shown that **chrysotile is not biopersistent with a clearance half-time of fibers longer than 20  $\mu\text{m}$  ranging from 0.3 days to 11.4 days**. This is in compassion to the amphibole asbestos (amosite and crocidolite) which in many of the studies were used as a positive control remain in the animal's lung through their life time and even following the short 5 day exposures of the biopersistence study, produce fibrosis and pleural lesions.



Most of the possible chrysotile fiber release with current use is of what is termed short fibers with lengths <5 to ~10  $\mu\text{m}$ . The potency of this length chrysotile and amphibole asbestos fibers has been debated over the years. This is due to the large database of epidemiology, toxicology, and in-vitro studies, each of which often provides different information in understanding and differentiating the effects of short fibers. The potency of these fibers has been recently reviewed<sup>1</sup> taking into account the dimensional and compositional characteristics of the fibers used for assessment in the human studies as well as the dose used in inhalation

toxicology and in-vitro studies. This review has demonstrated that the epidemiology, toxicology, and in-vitro studies provide strong support that short chrysotile and amphibole asbestos fibers with lengths <5–10  $\mu\text{m}$  do not contribute to the health effects of asbestos. While short asbestos fibers are present in most occupational or environmental exposures, the large body of studies strongly supports that they do not contribute to the health effects of asbestos exposure.

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- 1 Bernstein DM. The health effects of short fiber chrysotile and amphibole asbestos. *Crit Rev Toxicol*. 2022 Feb;52(2):89-112. doi: 10.1080/10408444.2022.2056430. Epub 2022 Jun 15. PMID: 35703172
  - 2 Korchevskiy A, Rasmuson JO, Rasmuson EJ. 2019. Empirical model of mesothelioma potency factors for different mineral fibers based on their chemical composition and dimensionality. *Inhal Toxicol*. 31(5): 180–191.
  - 3 Korchevskiy AA, Wylie AG. 2022. Dimensional characteristics of the major types of amphibole mineral particles and the implications for carcinogenic risk assessment. *Inhal Toxicol*. 34(1–2):24–38.
- Korchevskiy AA, Wylie AG. 2021. Dimensional determinants for the carcinogenic potency of elongate amphibole particles. *Inhal Toxicol*. 33(6–8):244–259.
- 5 Bernstein, David M., Rogers, Rick and Smith, Paul. The biopersistence of Canadian chrysotile asbestos following inhalation. *Inhalation Toxicology*, 15 (13): 101-128, 2003.
  - 6 Bernstein, David M., Chevalier, Jörg and Smith, Paul. Comparison of Calidria chrysotile asbestos to pure tremolite: Final Results of the Inhalation biopersistence and histopathology following short term exposure. Accepted for Publication in the Journal *Inhalation Toxicology*, *Inhalation Toxicology*, 17 (9), 427–449 2005.
  - 7 Bernstein, David M., Rogers, Rick and Smith, Paul. 2004. The biopersistence of Brazilian chrysotile asbestos following inhalation. *Inhalation Toxicology*, 16 (9), 745-761.
  - 8 Bernstein, D.M., Rogers, R., Sepulveda, R., Kunzendorf, P., Bellmann, B., Ernst, H., Creutzenberg, O., Phillips, J., 2015. Evaluation of the fate and pathological response in the lung and pleura of brake dust alone and in combination with added chrysotile compared to crocidolite asbestos following short-term inhalation exposure. *Toxicol. Appl. Pharmacol*. 283, 20–34.
  - 9 Bernstein DM, Rogers RA, Sepulveda R, Donaldson K, Schuler D, Gaering S, Kunzendorf P, Chevalier J, Holm SE. 2011. Quantification of the pathological response and fate in the lung and pleura of chrysotile in combination with fine particles compared to amosite-asbestos following short-term inhalation exposure. *Inhal Toxicol*. Jun;23(7):372-91.

Is this information in accordance with the much larger number of asbestos related diseases we can observe among workers than with other fibres?

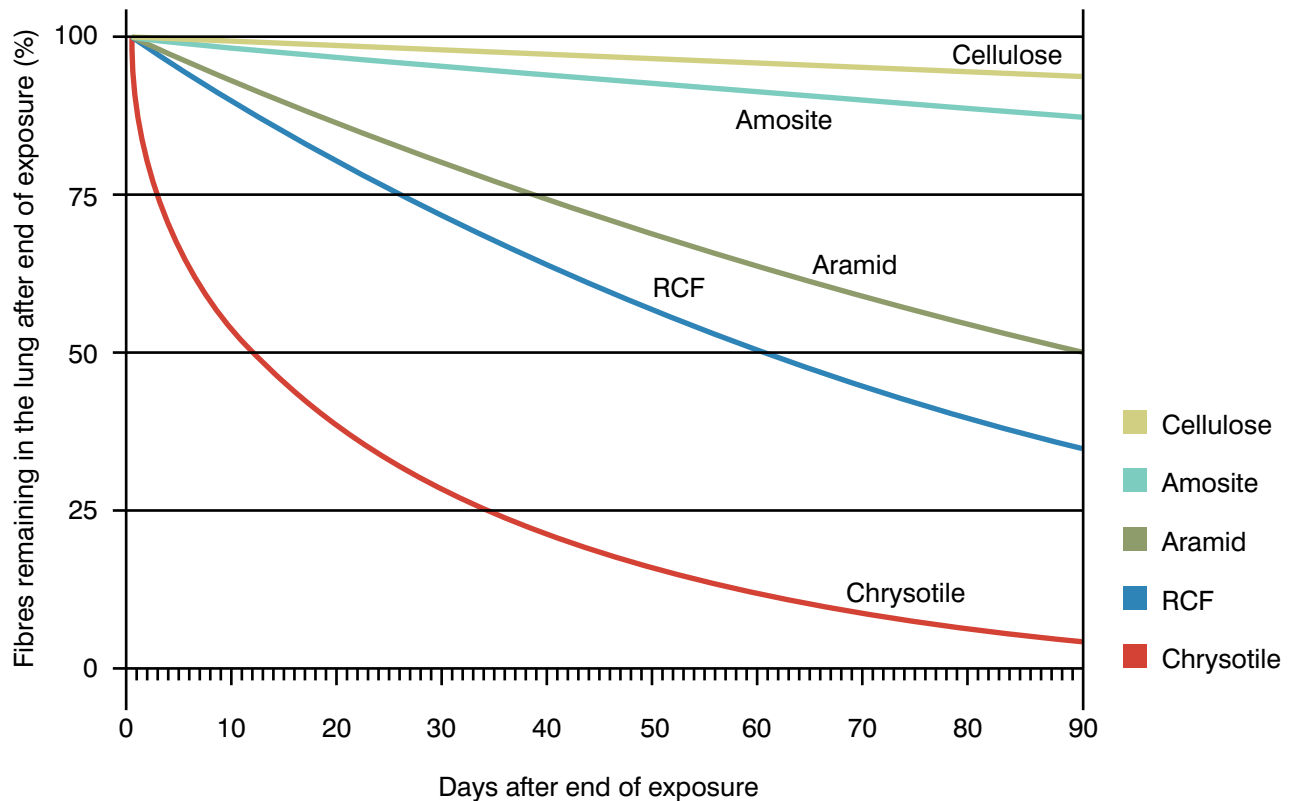
In fact, it is. First, people who were diagnosed with asbestos-related diseases were exposed to the more biopersistent amphibole types or a mixture of chrysotile and amphiboles.

Second, chrysotile has been used for more than a century, often at high exposure levels before 1960s, while alternative fibres are of recent use.

Third, with today's working conditions using exclusively chrysotile fibres in high-density materials, pulmonary disease linked to fibre exposure will be eliminated.

Careful consideration of all the facts yields one and only one conclusion: **controlled use is the regulatory policy of choice instead of a comprehensive product ban, not only for chrysotile, but also for other natural and man-made fibres.**

### Biopersistence of Several Respirable Fibres



# CHRYSTILE: A VALUABLE NATURAL RESOURCE

**Chrysotile is considered a valuable natural resource as is the case for any other mineral of worth to society. Chrysotile is a substance of significant social and economic value, particularly in emerging countries where it is widely used in highly, cost-effective, infrastructures applications, such as chrysotile-cement pipes for drinking water, irrigation, and sewage.**

No one should forget that chrysotile is not the only substance exhibiting hazardous characteristics. Glass wool, crystalline silica and some celluloses are among many other substances that have to be controlled to reduce the risk to an acceptable level.

Few other natural resources have been the subject of more research than chrysotile. Nevertheless, despite all the scientific data accumulated on the health effects of chrysotile and other fibres and in spite of measures taken by the industry, the workers and their labor organizations a climate of uncertainty persists among the public.

Today, chrysotile is not the devastating threat to the population, to the world and to the workers, as it is widely alleged by some activists who too often manipulate statistics. The chrysotile industry, through the years, has answered and argued with logic and common sense. Rational response and explanations have been given, and the potential risk that this natural fibre may present has been addressed.

Thus, for over three decades, there has been consistent published evidence that chrysotile, under proper control in the workplace, can be used safely. Many examples of its control, used successfully, have been noted. In fact, using chrysotile within the parameters of the regulated exposure limits and respecting the good work practices in place, will ensure that it is being used safely and the level of a real potential risk for health almost not measurable, as often indicated by scientific published studies.

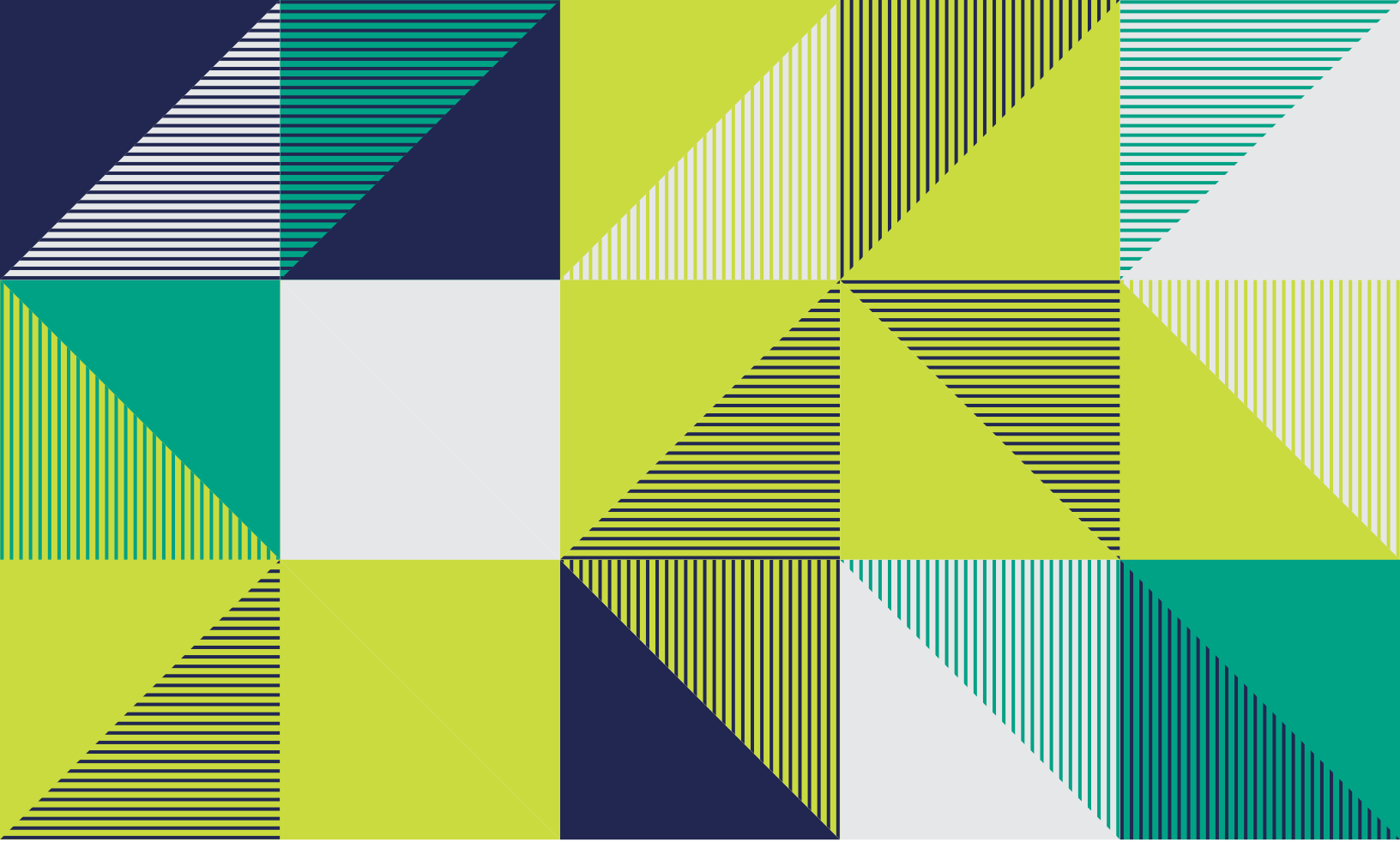


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**The good news is that the practical implementation of the safe and controlled use of chrysotile remains simple.**







For environmental  
occupational health  
safe and responsible use

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