

Why the PIC Procedure Should Apply to Paints That Contain Lead Chromates

This PowerPoint presentation

- Describes the three major forms in which lead chromates are traded, sold, and used: powder, paints, and masterbatches.
- Explains why the Convention's PIC Procedure should apply both to lead chromate powders and to paints and masterbatches that contain lead chromate pigments as constituents.

This PowerPoint Presentation is the 4th in a series of 8 presentations on Lead Chromates and the Rotterdam Convention, prepared by IPEN in order to help NGOs, civil society, and government officials better understand the important role a lead chromate listing by the Rotterdam Convention can play in reducing childhood lead exposure and accelerating global lead paint elimination. For other presentations in this series, please visit IPEN's [website](#).

IPEN's Campaign to List Lead Chromates

IPEN is a network of over 600 NGOs in more than 120 countries working together for a toxics-free future.

- IPEN has been working with NGOs to promote lead paint elimination in low- and middle-income countries for fifteen years.
- Initiatives by governments and these NGOs has led to the adoption of new lead paint regulation in several countries.
- IPEN-affiliated NGOs in countries that recently adopted lead paint control laws are now encouraging their Governments to nominate lead chromates for a Rotterdam Convention listing.

IPEN's Campaign to List Lead Chromates

The Rotterdam Convention is an international treaty that operates a legally binding Prior Informed Consent (PIC) procedure that applies to international trade in the hazardous chemicals listed in its Annex III.

- The lead paint control regulations that many countries recently adopted impose severe restrictions on the use of lead chromate pigments as ingredients in paints.
- These pigments are the predominant source of lead in lead paints.
- Countries that recently adopted lead paint regulations can submit Notifications to the Rotterdam Convention that nominate lead chromates for a Convention listing.
- A decision by the Rotterdam Convention to list lead chromates can help greatly accelerate the global elimination of all lead paints.

IPEN's Campaign to List Lead Chromates

Those interested in submitting Notifications may wish to review two documents that better explain the listing process and its impact.

[*Controlling Lead Chromate Pigments: The Case for a Rotterdam Convention Listing*](#). What are Lead Chromates; The Lead Chromate Hazard; Uses of Lead Chromates; and the Impact of a Rotterdam Convention Listing.

[*Preparing a Rotterdam Convention Notification Listing*](#). Why Countries that Recently Adopted Lead Paint Controls Can Nominate Lead Chromates; the Rotterdam Listing Process; Most Recent Regulatory Actions were based on Risk Evaluations; Establishing Controls on Trade in both Lead Chromates and in Paints that Contain them; How to Satisfy the Convention's Listing Criteria.

The Convention's PIC Procedure should Apply to Lead Chromates in Powder Form AND to Paints and Masterbatches that Contain them

The Rotterdam Convention states, in Article 2, that “*for the purposes of this Convention*” the term “*Chemical*” should be understood to mean “*a substance whether by itself or in a mixture.*”

- Lead chromates are widely traded, sold, and used not only in their powder form, but also as primary constituents in paints and in masterbatches.
- The Convention's PIC procedure, therefore, should apply to international trade not only in lead chromate pigments in their powder form, but also to trade in lead chromates when they are present in paints and in masterbatches (both are mixtures).

Lead Chromates

Lead chromates are a family of yellow, orange, and red crystalline pigments.

- All contain the lead chromate (PbCrO_4) in each crystal.
- Most contain lead sulphate (PbSO_4) in each crystal.
- Some also contain lead molybdate (PbMoO_4) in each crystal.
- The ratio of the PbCrO_4 to the PbSO_4 to the PbMoO_4 in each crystal (as well as variations in the crystalline structure) influences the pigment's color, hue, and other properties.

Lead Chromate Pigment Powder

Lead chromate pigments are often traded in their powder form.

- Lead chromate pigment powders are finely ground, relatively pure, crystals that have been engineered to meet certain specifications with regard to their color and their other properties.
- They are purchased for two primary uses:
 1. For use as ingredients in the manufacture of paints; and
 2. For use as coloring agents in plastics.

Paints

Paints are mixtures that are generally understood to contain three essential components: pigments, binders, and solvents.

- **Pigments** are finely ground crystals that give a paint its color. They also help protect the underlying surface from sunlight and corrosion. Pigments are insoluble, and they are chemically unaffected by the vehicle into which they are mixed.
- **Binders** are sticky substances that bind pigment particles, and any other paint ingredients, to one another. They also help the paint's pigments adhere to the coated surface.
- **Solvents** are liquids into which a paint's pigments, its binders, and other ingredients are mixed. After the paint is applied to a surface, the solvents evaporate. The pigments, binders, and other paint ingredients then become a dry paint film.

Masterbatches

A masterbatch is a polymer or some other matrix that:

- Contains a concentration of pigments and/or other additives;
- Has been cut into small granules for easy use.

Masterbatches are used to disperse pigments and/or other additives through a synthetic polymer.

- Masterbatches are mixed into molten plastics (or into molten synthetic rubbers or leathers) to uniformly disperse the pigments and/or other additives.
- Producers of products that contain plastics often prefer using masterbatches to colorize the plastics in their products.

Lead chromates can be present as constituents in masterbatches that are used to colorize plastics (or other synthetic polymers).

The Rotterdam PIC Procedure Should Apply to Listed Chemicals that are Present as a Major Constituent in a Paint or Masterbatch

When lead chromates are sold, traded, or used in the form of a constituent ingredient in a paint or a masterbatch, they should be considered – for Rotterdam Convention-related purposes – as chemicals contained in a **mixture**.

- Chemists define the term “**mixture**” as a combination of two or more substances that retain their individual chemical properties.
- When lead chromate pigments are present as constituents in a paint or a masterbatch, they are chemical substances that are present in a **mixture**.

The Rotterdam PIC Procedure Should Apply to Listed Chemicals that are Present as Major Constituents in a Paint or Masterbatch

The Rotterdam Convention's PIC Procedure applies to international trade in **chemicals** that are listed in the Convention's Annex III.

- The Convention defines the term “**chemical**” to mean “*a substance whether by itself or in a mixture.*”
- If lead chromates are listed in Annex III, they will be **chemicals** that are subject to the of the Convention's PIC procedure.
- The provisions of the PIC procedure should then apply not only to lead chromate pigments that are traded as substances by themselves, but also to lead chromate pigments that are traded as constituent ingredients in paints and masterbatches, which are mixtures.

Summary

Lead chromates are internationally traded in three major forms:

- As lead chromate pigments, in powder form;
- As lead chromate pigments that are present as major constituents in paints or other coatings; and
- As lead chromate pigments that are present as major constituents in masterbatches.

If the Rotterdam Convention agrees to list lead chromates in its Annex III, the Convention's PIC procedure should fully apply to the three major forms in which lead chromates are internationally traded.

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For Additional information and other *Lead Chromates and the Rotterdam Convention* PowerPoint presentations, please visit IPEN's [website](https://ipen.org/site/listing-lead-chromates-under-rotterdam-convention). (https://ipen.org/site/listing-lead-chromates-under-rotterdam-convention)