

**WACKER**

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**OEHHA's announcement on chemicals proposed for listing by the labor code mechanism**

Dear Ms. Oshita:

On behalf of Wacker Chemical Corporation (WCC) these further comments are being submitted in response to the "Request for Comments on Chemicals Proposed for Listing by the Labor Code Mechanism (Carcinogens)" published on June 12 by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA).

WCC is the United States based legal entity of the German based company Wacker Chemie AG and represents WACKER POLYMERS' interests - a global acting Business Division of Wacker Chemie AG.

WACKER POLYMERS manufactures vinyl acetate monomer (VAM) and is a leading global producer of vinyl acetate (co)polymers too, especially for dispersible polymer powders based on VAM. Therefore VAM as well as the vinyl acetate (co)polymers are very important in our business.

VAM is a high volume building block chemical solely used in the manufacture of polyvinyl acetate (homo-polymers) and vinyl acetate copolymers. These (co)polymers are the base for many industrial and consumer products as well as for other important polymers. There is no direct consumer use of VAM. VAM is less resource-intensive based on crude oil than other monomers. Therefore VAM is a significant global raw material with respect of sustainability.

VAM is a substance evaluated among others by United States FDA. There are several FDA food contact clearances including the following:

- § 172.615 (chewing gum base)
- § 172.892 (food starch-modified)
- § 175.105 (adhesives)
- § 175.300 (resinous and polymeric coatings)
- § 175.320 (resinous and polymeric coatings in polymeric films)
- § 175.350 (vinyl acetate / crotonic acid copolymer)
- § 175.380 (xylene-formaldehyde resins condensed with 4,4'-iso-propylidenediphenol epichlorhydrin epoxy resins)
- § 175.390 (zinc-silicon dioxide matrix coatings)
- § 176.170 (components of paper and paperboard in contact with aqueous and fatty foods)
- § 176.180 (components of paper and paperboard in contact with dry food)
- § 177.1200 (cellophane)
- § 177.1210 (closures with sealing gaskets for food containers)
- § 177.1330 (ionomeric resins)
- § 177.1350 (ethylene \ vinyl acetate copolymers)
- § 177.1360 (ethylene-vinyl acetate-vinyl alcohol copolymers)
- § 177.1390 (lamine structures for use at temperatures af 250° F and above)
- § 177.2250 (filters, microporous polymeric)
- § 177.2260 (filters, resin bonded)
- § 177.2800 (textiles and textile fibers)
- § 178.3860 (release agents)

There are recently finalized Canadian and European assessments available. Canada classified VAM as non CEPA toxic. The final assessment concludes that VAM is not a concern for human health. The EU classified VAM as carcinogenic cat. 3 "limited evidence of a carcinogenic effect". In the USA VAM is classified as IARC 2B "possible human carcinogen". Therefore VAM is not a chemical "known to cause cancer or reproductive toxicity".

Vinyl acetate copolymers have special properties making them indispensable in the global effort to reduce emissions, energy consumption and raw material consumption e.g.

- reducing significantly the amount of cement in dry mortars (globally on the order of 100 million tons cement) hence reducing CO<sub>2</sub> emissions enormously
- lowering the use of solvents, plasticizers and film forming agents used in adhesives for food packing materials reduces emissions of VOCs (volatile organic compounds) during production
- lowering the use of solvents, plasticizers and film forming agents in interior wall paints reduces IAQ (indoor air quality) issues and also helps to reduce emission of VOCs
- formulating exterior thermal insulation composite systems helps to reduce energy consumption of residential housing and industrial facilities
- bonding natural and synthetic fibers for personal care products (feminine hygiene) hence reducing overall raw material consumption

Vinyl acetate (co)polymers are marketed in different delivery forms as emulsions / dispersions (waterborne), dispersible polymer powders (dispersible in water), solid resins or solutions.

They are used as:

- additives e.g. for
  - coatings
  - fuel
- binders e.g. for
  - (low VOC waterborne) adhesives / glues
  - coatings for food packaging
  - concrete
  - exterior thermal insulation composite systems
  - filler
  - (repair) mortars and grouts
  - non-woven fabric and paper items, such as wipes and filter papers
  - personal care products such as hair sprays, feminine hygiene
  - (low VOC) emulsion / water based paints
  - paper finishing
  - plasters
  - renders
  - sealing slurries
  - self leveling mortars and screeds
  - textile finishing agents
  - tile adhesives
- fibers
- films
- masticatory polymers e.g. for chewing gum (base)
- as a modifier for plastics e.g. low profile additive
- as a monomer for the production of other (co)polymers, e.g. polyvinyl alcohol, polyvinyl butyral

When evaluating vinyl acetate monomer, one has to consider the consecutive downstream steps of the value chain:

- Production:  
Synthesis of the monomer vinyl acetate.
- Use:  
Processing = (co)polymerization of vinyl acetate monomer to polyvinyl acetate and vinyl acetate copolymers
- Compounding:  
Handling of the (co)polymers in the different delivery forms:
  - Manufacturing of ready-to-use products such as adhesives, paints, textile finishing agents, chewing gums.
  - Manufacturing of intermediates such as fibers, films, lacquers, printing inks.
- End Use:  
Use of compounded products:
  - Commercial end user examples are painting, floor laying, gluing furniture together, tiling.
  - Industrial end user examples include printing, manufacturing of finished / coated films.
- Consumer:  
Potential exposure to products made from or containing vinyl acetate polymers and

copolymers such as flooring, food packaging, furniture, printed paper, finished textiles, painted walls.

Adding VAM to the Proposition 65 list would have significant adverse effects on the ability of

- producers manufacturing vinyl acetate monomer
- users (co)polymerizing vinyl acetate monomer
- compounders handling the (co)polymers
- end users using compounded products
- consumers well-being and convenience

to sell and to use products based on vinyl acetate (co)polymers. Furthermore, because Proposition 65 is well-known outside California and warnings are often provided on products or MSDS that reach outside California, the listing could have impact well beyond the state borders.

The fact that VAM would be added to the list "chemicals known to the State (of California) to cause cancer or reproductive toxicity" is troubling since it has not been identified as a known human carcinogen by any recognized national authority in the US such as NTP or OSHA. Since this type of regulatory listing could be cited during assessments in other countries or regions it could result in unjustified effects, e.g. requiring the use of alternatives or substitutes.

Therefore

- we encourage OEHHA to remove vinyl acetate monomer from the proposed chemicals to be listed using the Labor Code mechanism
- at a minimum, we would expect OEHHA to undertake a thorough, comprehensive, science based review of the state of knowledge regarding the toxicology of vinyl acetate prior to any final decision adding it to the Proposition 65 list.

If you have any questions or if additional information, of any type, is needed, please do not hesitate to contact us.

Best regards,



**Timothy Sloan, CFPS**

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