

Introduction: Quaternary Ammonium Compounds as Potential Priority Chemicals

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Office of Environmental Health Hazard Assessment

Presentation to the Scientific Guidance Panel

March 8, 2021



BIOMONITORING
CALIFORNIA

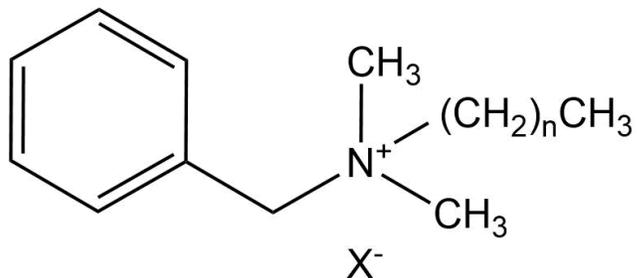
SGP actions on quaternary ammonium compounds (QACs)

- ▶ March 2019: Panel requested preliminary screening of QACs
- ▶ July 2019: Preliminary screening reviewed by SGP
 - Panel requested that OEHHA prepare a potential designated chemical document on QACs
- ▶ March 2020: SGP considered QACs as potential designated chemicals
 - Panel recommended that the class of QACs be added to the list of designated chemicals
 - Panel requested that OEHHA prepare a potential priority chemical document on QACs

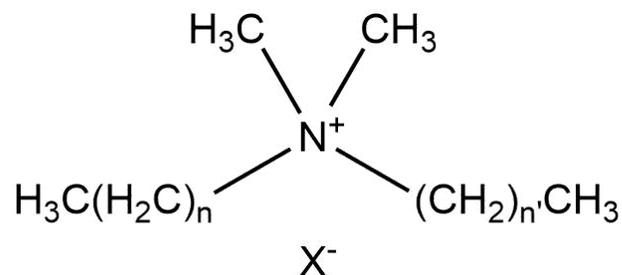
Criteria for recommending priority chemicals

- ▶ The ***degree of potential exposure*** to the public or specific subgroups
- ▶ The ***likelihood of a chemical being a carcinogen or toxicant*** based on peer-reviewed health data, the chemical structure, or the toxicology of chemically related compounds
- ▶ The ***limits of laboratory detection*** for the chemical, including the ability to detect the chemical at low enough levels that could be expected in the general population
- ▶ Other criteria that the panel may agree to

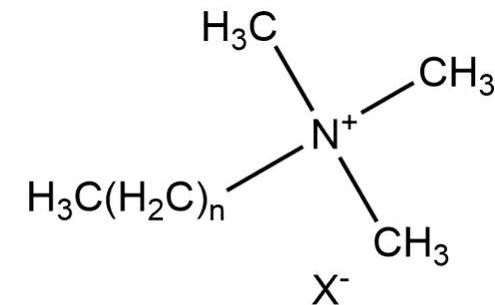
Chemical structures of selected QACs



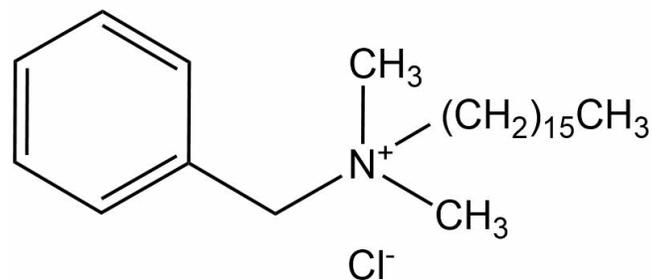
Benzylalkyldimethyl ammonium compounds (BACs)



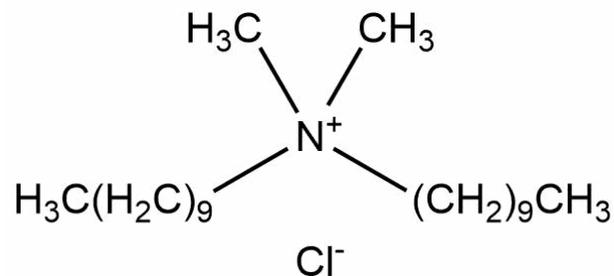
Dialkyldimethyl ammonium compounds (DADMACs)



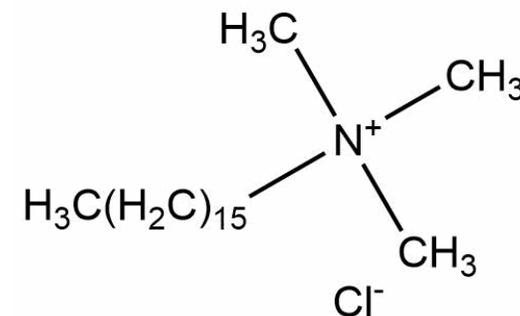
Alkyltrimethyl ammonium compounds (ATMACs)



Benzylhexadecyldimethyl ammonium chloride

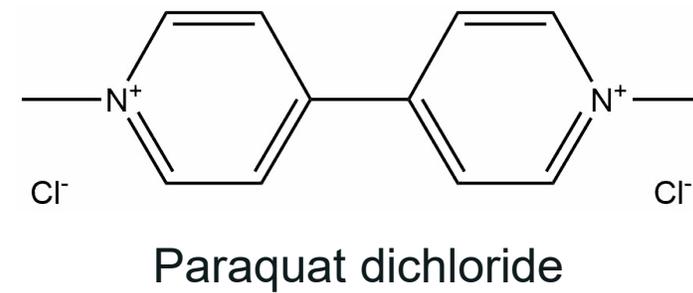
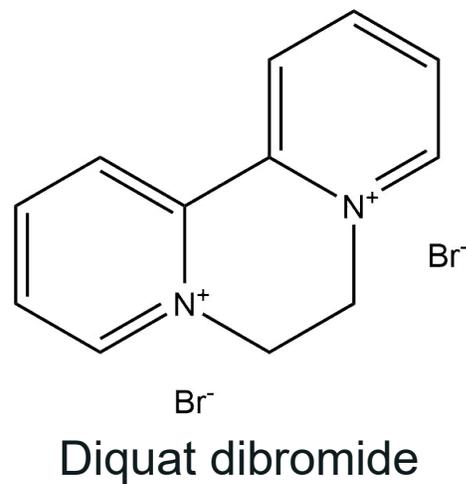
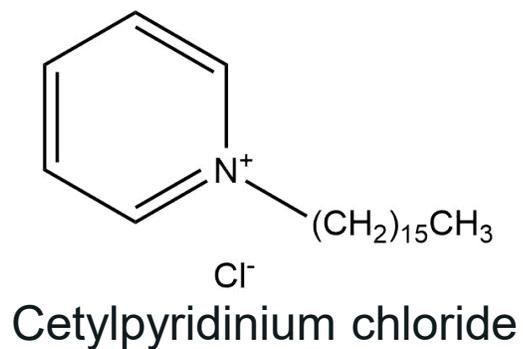
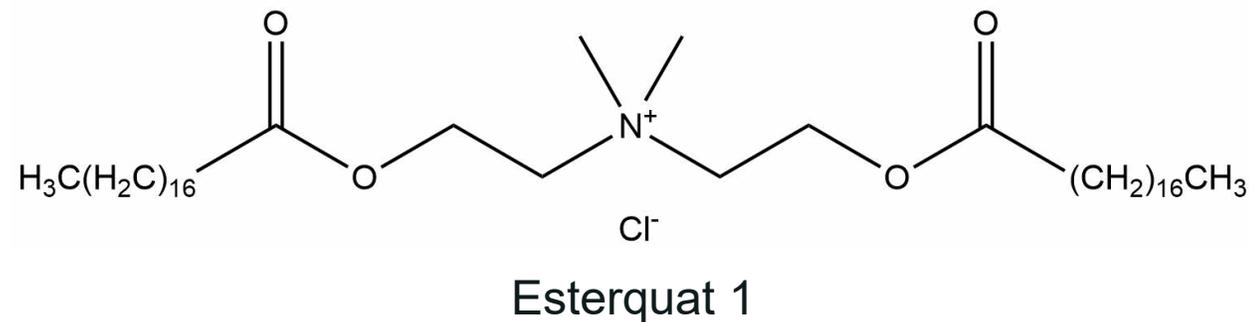
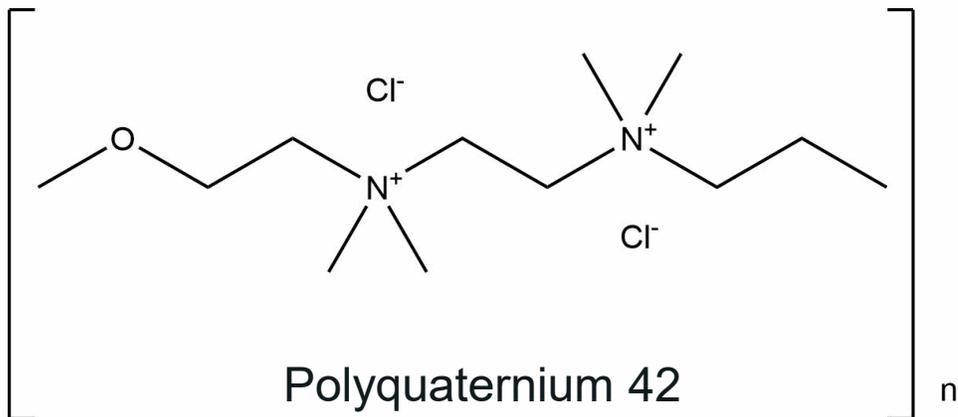


Didecyldimethyl ammonium chloride



Hexadecyltrimethyl ammonium chloride

Chemical structures of selected QACs (cont.)



Chemical functions include:

- Antimicrobial
- Preservative
- Antistatic
- Softening
- Surfactant
- Corrosion inhibitor

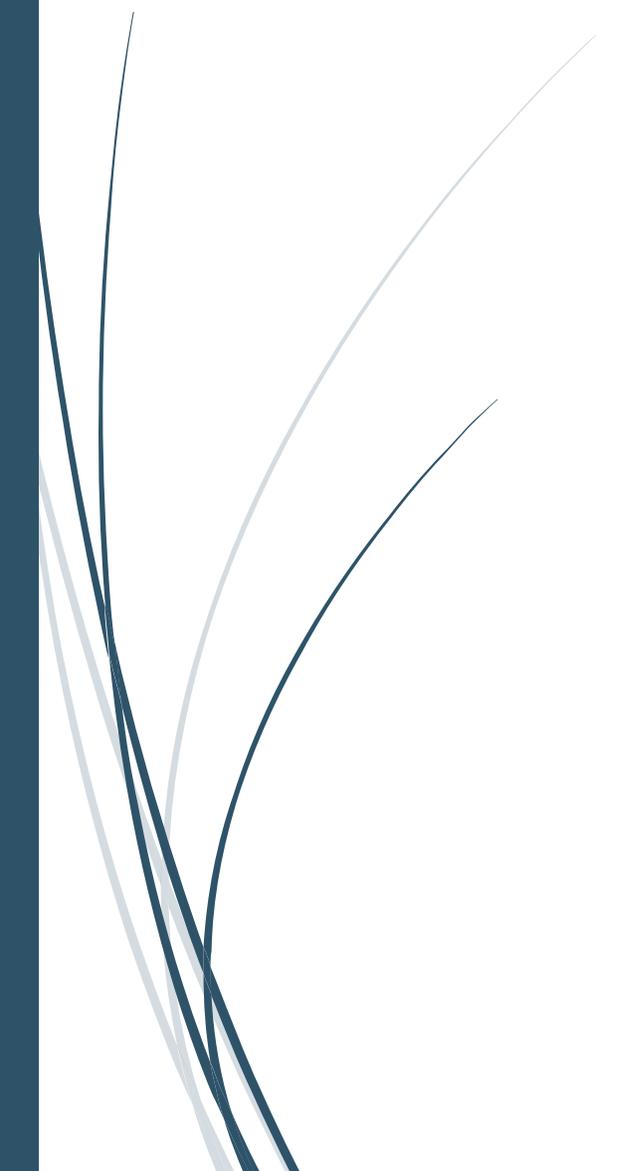
QACs are used in a variety of products and applications

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Options for the Panel's afternoon deliberations

- Recommend the class “quaternary ammonium compounds (QACs)” be added to the list of priority chemicals
- Defer consideration of QACs
- Decide against adding QACs as priority chemicals



Questions?