

Composite Wood Product Airborne Toxics Control Measure

September 20, 2001



California Environmental Protection Agency

Air Resources Board



California Health & Safety Code Requirements

- **§ 39657 - Requires ARB to identify toxic air contaminants that pose significant risk to the public; identify minimum threshold level if any**
- **§ 39658 - Requires ARB to develop ATCMs for identified compounds**
- **§ 39660.5 -Requires ARB to assess California's indoor exposure to TACs and the relative contribution to total exposure**
- **§ 39666 - For compounds with no threshold level, the HSC requires the development of control measures to reduce emissions to lowest level achievable through use of best available control technology or more effective control**



California's 2-Part Air Toxics Program

Identification

Potential Toxic Substance

ARB/OEHHA Publishes Draft Report

- Public Workshops
- Comment Period

SRP Reviews Report

Public Hearing

Risk Management

Evaluate Exposure and Risk

Investigate Risk Reduction Option/s

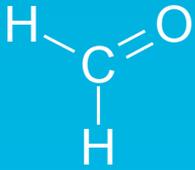
- Public Workshops

Publish Staff Report / Proposal

- Public Workshops
- Comment Period

Public Hearing





Formaldehyde

- Formaldehyde is used as a main reactant to form a specific resin
- Anti-microbial property makes formaldehyde useful in many applications (paints, cosmetics, detergents, etc.)
- Very reactive, polymerizes easily
- Identified as TAC by ARB in 1992 with no minimum threshold level



Formaldehyde Health Information

- **Cancer URF = 6 cases/million people (exposed to 1 $\mu\text{g}/\text{m}^3$ over 70 years)**
- **Acute REL = 94 $\mu\text{g}/\text{m}^3$ (1 hour avg. - eye irritation)**
- **Chronic REL = 3 $\mu\text{g}/\text{m}^3$ (annual avg. - respiratory health effects)**
- **Some health studies show that formaldehyde exacerbates asthma in those allergic to formaldehyde**
- **Classified as a Group 2A by IARC and a HAP by the U.S. EPA**



Why is Formaldehyde Control Important?

- **Data show that Californians are exposed to indoor and outdoor formaldehyde**
- **U.S. EPA ranked formaldehyde number 1 and 2 for chronic and acute indoor exposure**
- **Reduce cancer risk from exposure**
- **Avoid/reduce acute and chronic exposure**



U.S. EPA “Panel” MACT

- Applies to manufacturers of plywood and composite wood products
- Limits facility HAP emissions (including formaldehyde) from plywood and composite wood manufacturing facilities
- Imposes facility emission reduction target of 90%
- Alternative compliance option is to limit emissions from selected process equipment

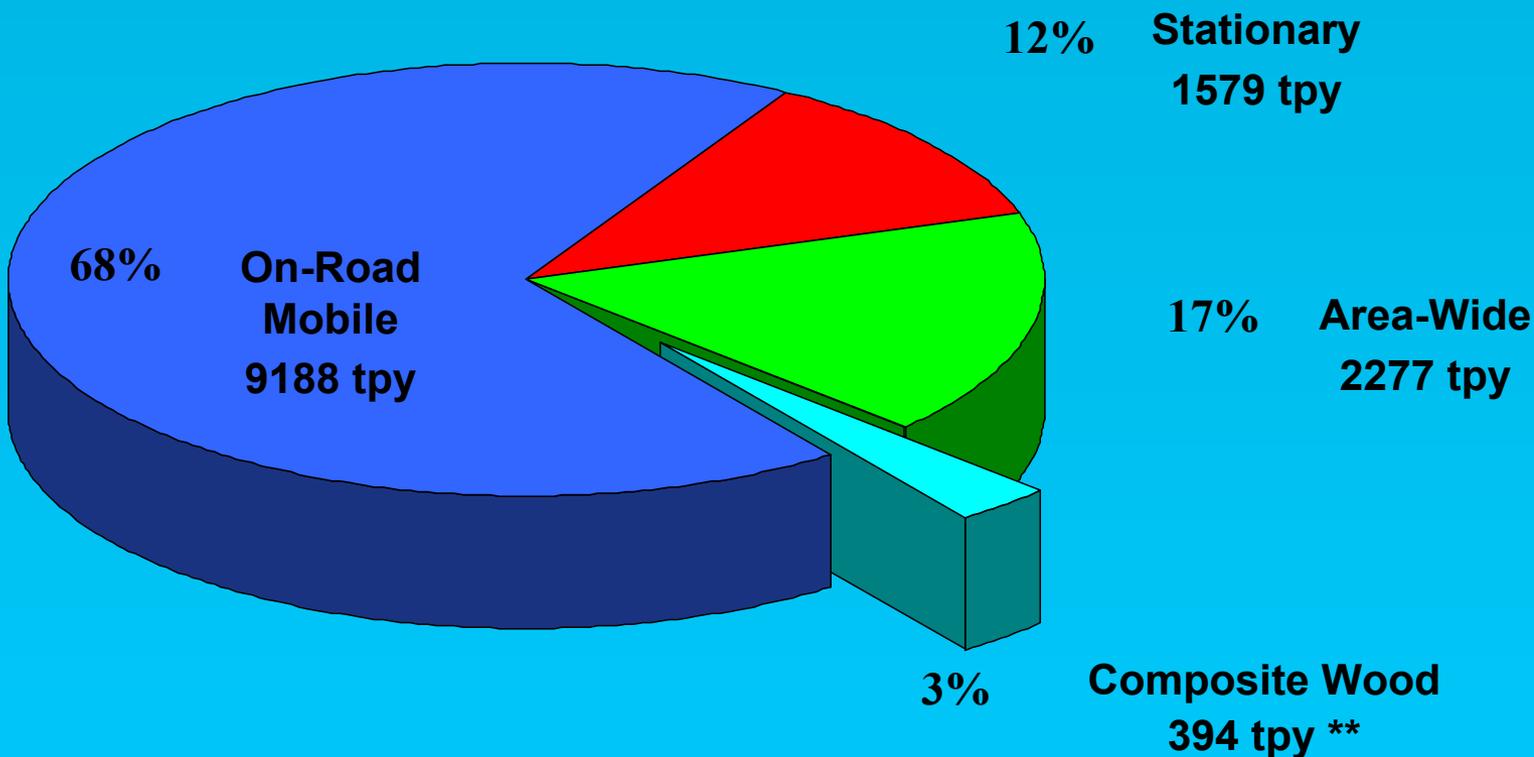


Sources of Ambient Formaldehyde

- **Directly emitted to ambient air from mobile, area-wide (e.g., paints) and stationary sources**
- **Studies show significant emissions from various building products, wallpaper, paints, and other consumer products**
- **Secondary formation contributes significantly to ambient level**



Directly Emitted Formaldehyde Sources*

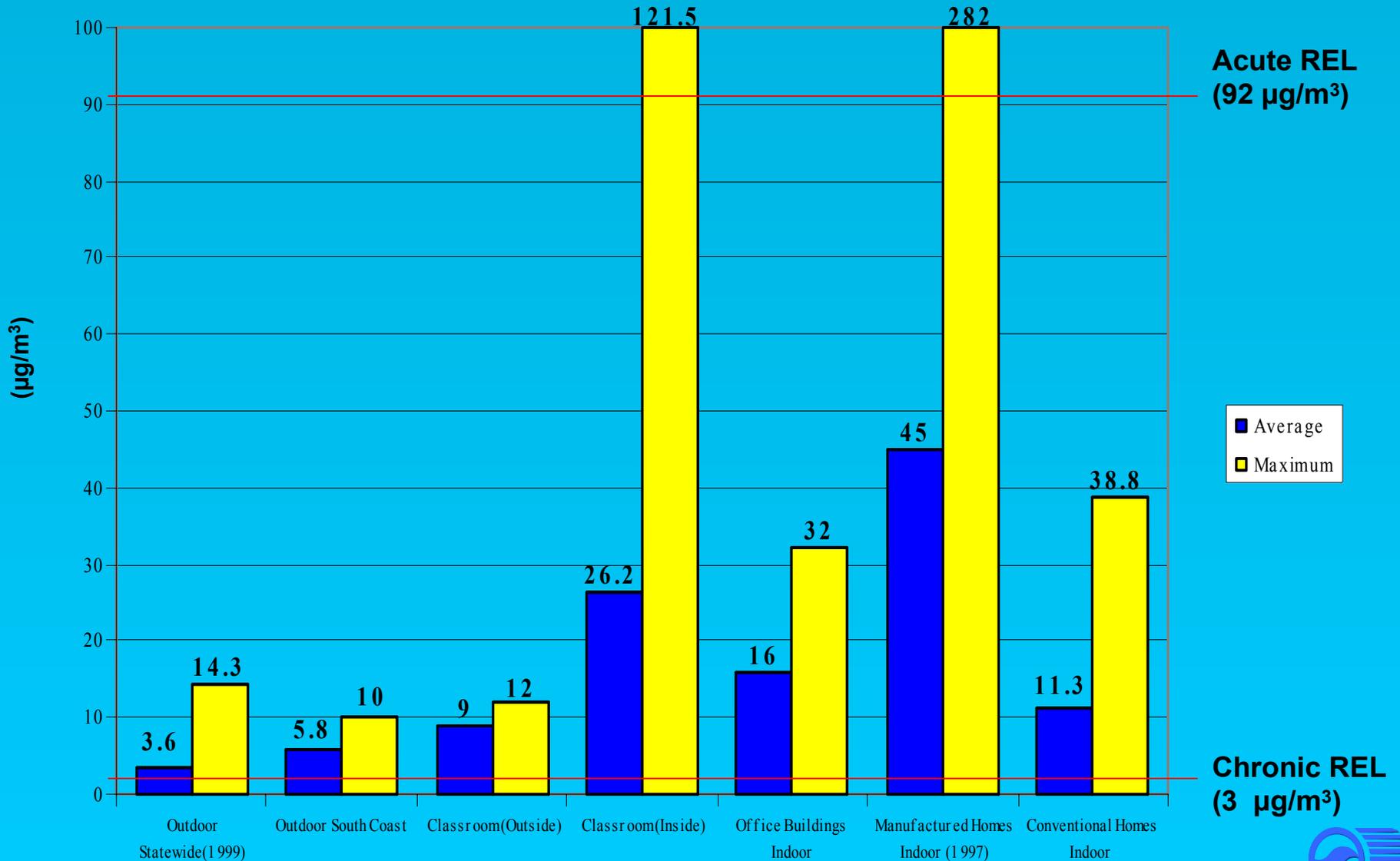


*Based on the 2001 California Almanac of Emissions and Air Quality, ARB

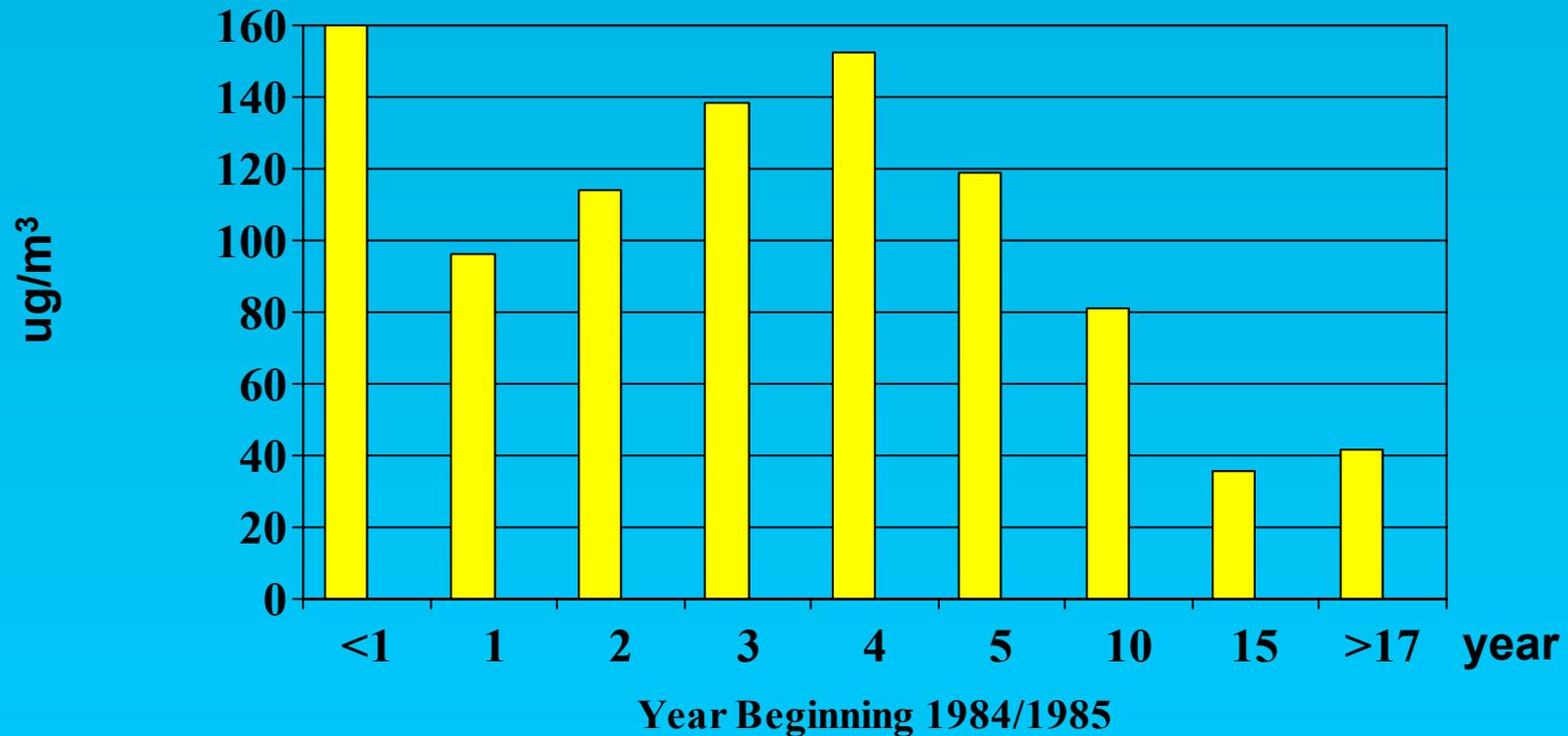
** Estimated total emission based on information from U.S. Census Bureau and Random Lengths Publication



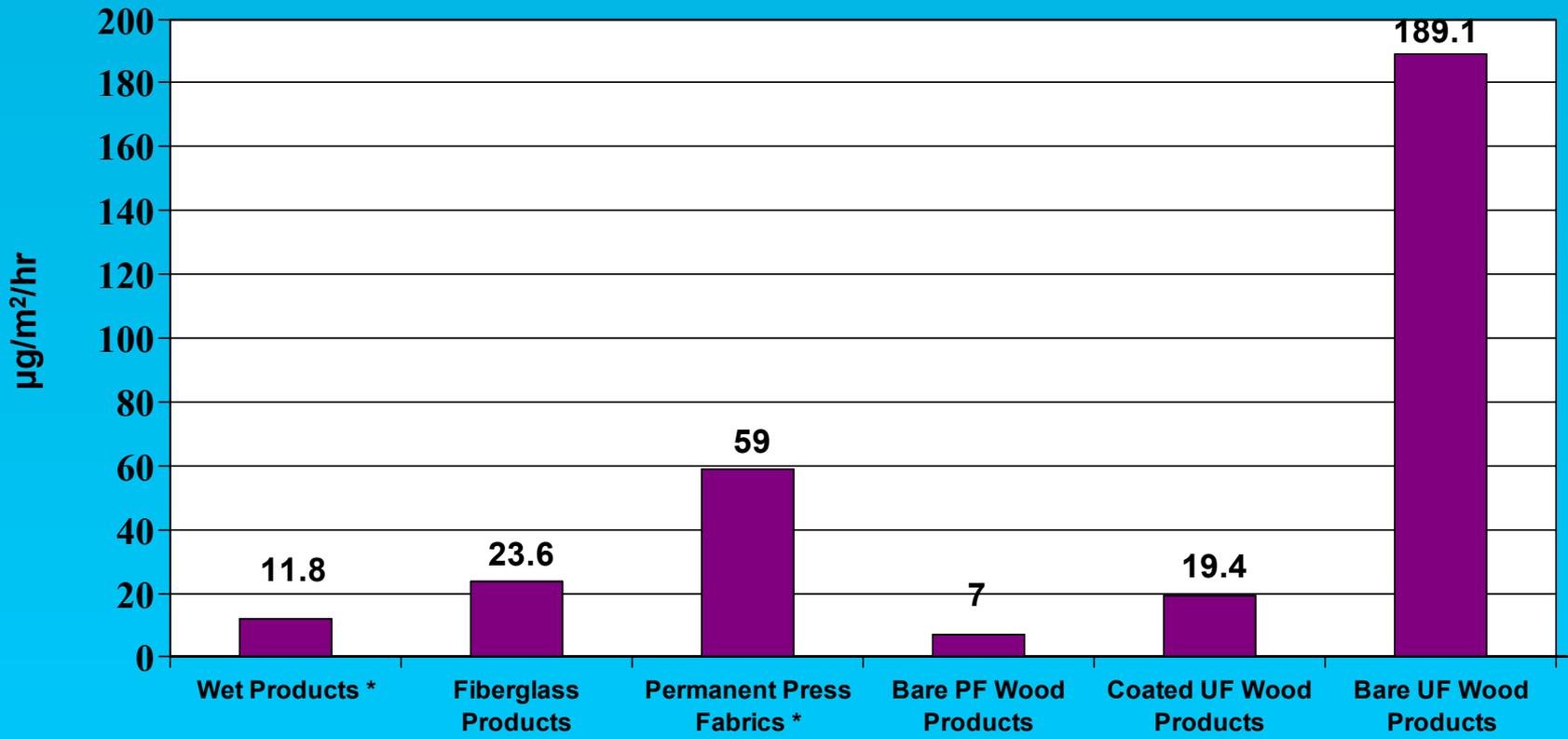
Formaldehyde Levels



Summary of Indoor Formaldehyde Concentrations in Manufactured Homes by Age of Home



ARB's Batelle Study Area Based Emission Rates



** Values are initial emission rates; emissions decrease significantly over time*



Composite Products ATCM Schedule

Year 2001

- Form workgroup
- Product survey
- Conduct monitoring
- Staff evaluation



Year 2002

- Develop draft ATCM proposal
- Workgroup meetings
- Public workshops
- Comment periods
- Public hearing (Summer)



Contact Information

For more information on formaldehyde-emitting products, please contact :

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