



Accelerating Sustainable Manufacturing

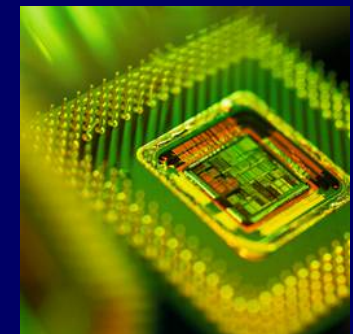
# Semiconductor 2010 Registration and Exposure Scenario Scoping Survey Results



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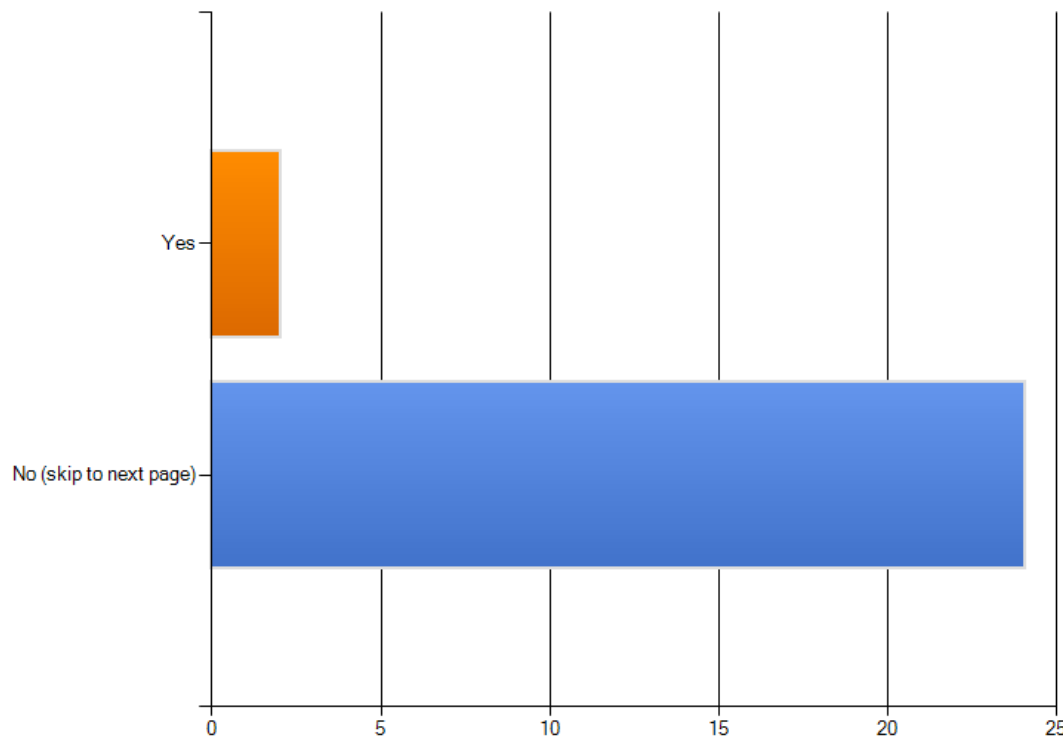


# Survey Purpose and Results Sharing

- Semiconductor industry wishes to understand the scope of substances used in European semiconductor manufacturing that require exposure scenarios in the earliest registration timeframe (November 2010).
- Results were compiled for sharing with the industry via the ISMI Public website. All responses compiled into a single, non-confidential document with respondent identifying information removed.
- Twenty-six (26) survey responses received.

# Survey Results: Facilities Chemicals

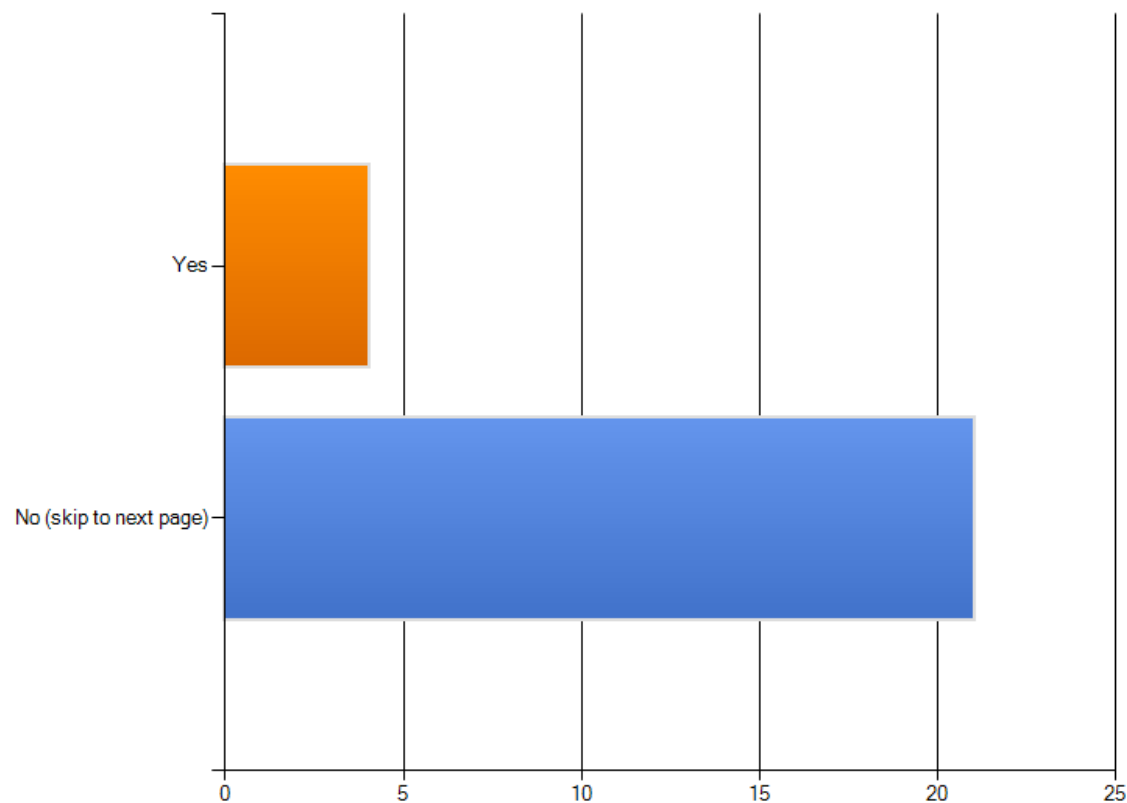
Do you plan to register Facilities Operations chemicals (Water Treatment, Cooling Tower Treatment, etc) under REACH by November 2010?



- Specific substances to be registered in 2010
  - Acrylamide,
  - Diallyl dimethyl ammonium chloride monomers
  - Hydrogen peroxide
- Substances requiring Exposure Scenarios but not registered in 2010
  - Perfluoroalkanes & Perfluoroamines

# Oxidation Chemicals

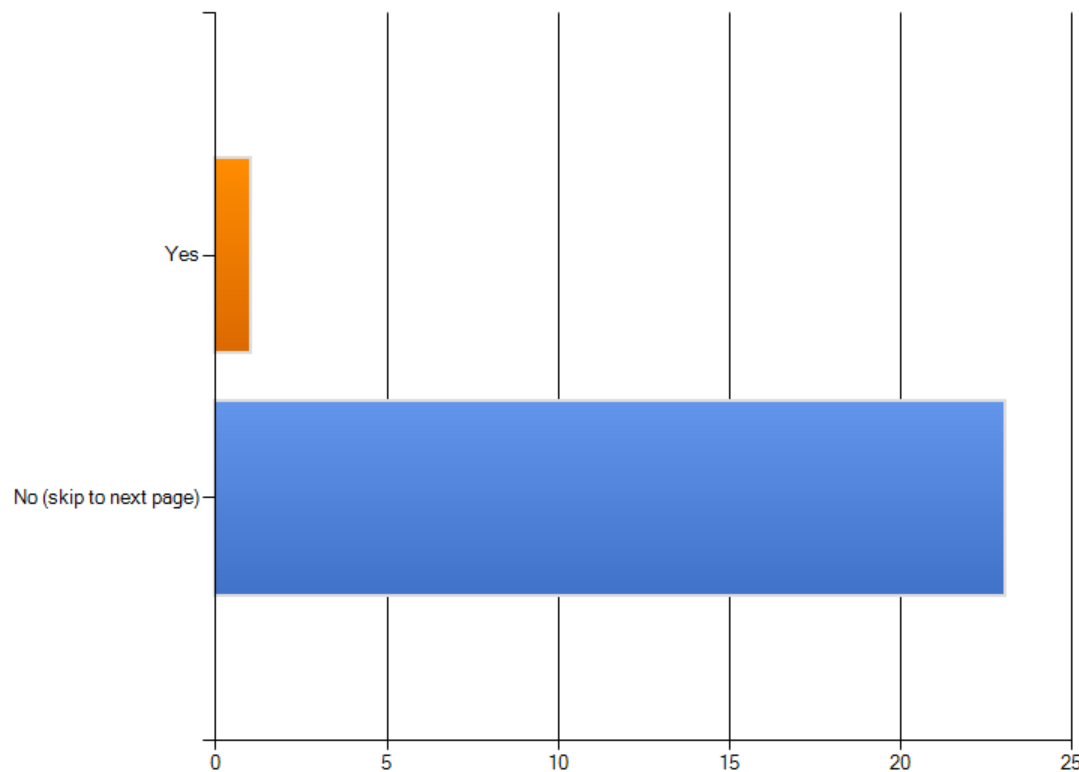
Do you plan to register Oxidation chemicals under REACH by November 2010?



- Specific substances to be registered in 2010
  - highly flammable
  - Hydrogen peroxide
  - Hydrogen peroxide

# Photolithography Chemicals

Do you plan to register Photolithography chemicals under REACH by November 2010?

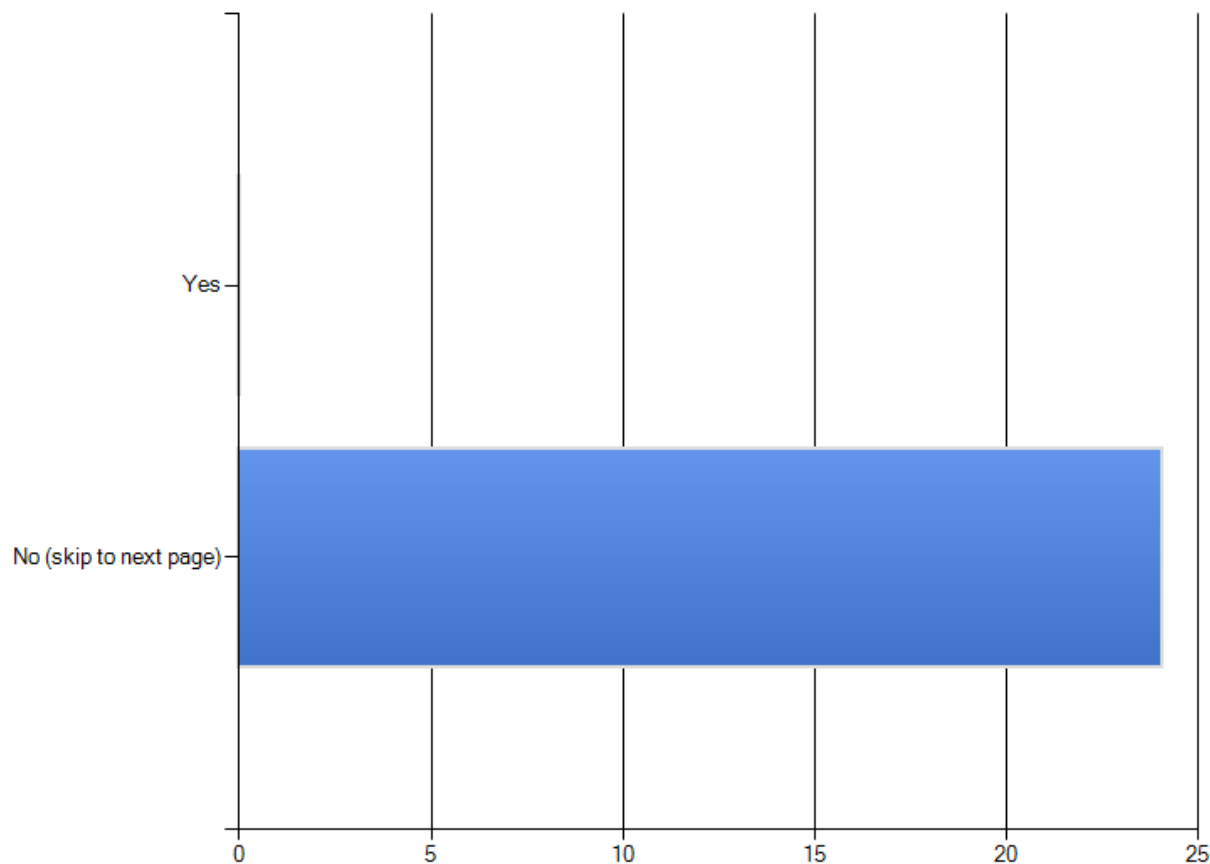


- Specific substances to be registered in 2010
  - Not specified
- Substances requiring Exposure Scenarios but not registered in 2010
  - Propylene Glycol Monomethyl Ether

# Doping Chemicals



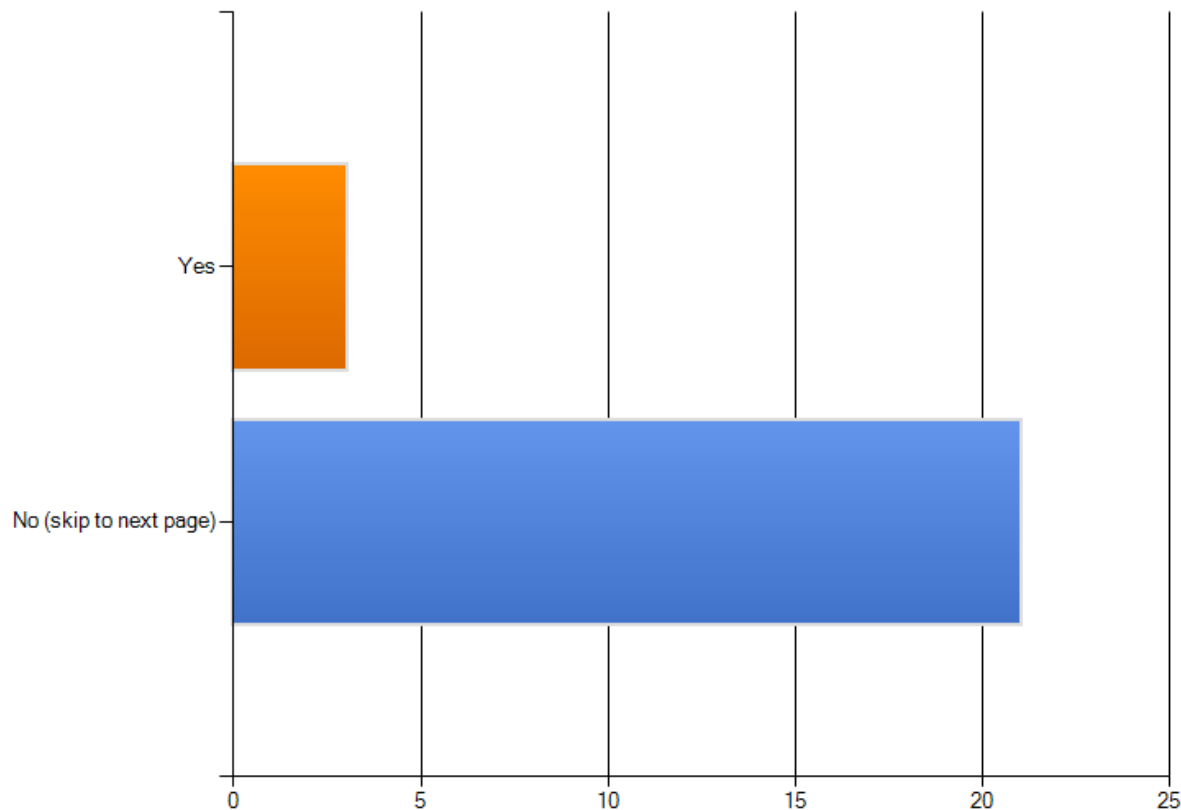
Do you plan to register Doping chemicals under REACH by November 2010?



- No doping chemicals reported for 2010.

## Deposition/Thin Film/CVD/PVD Chemicals

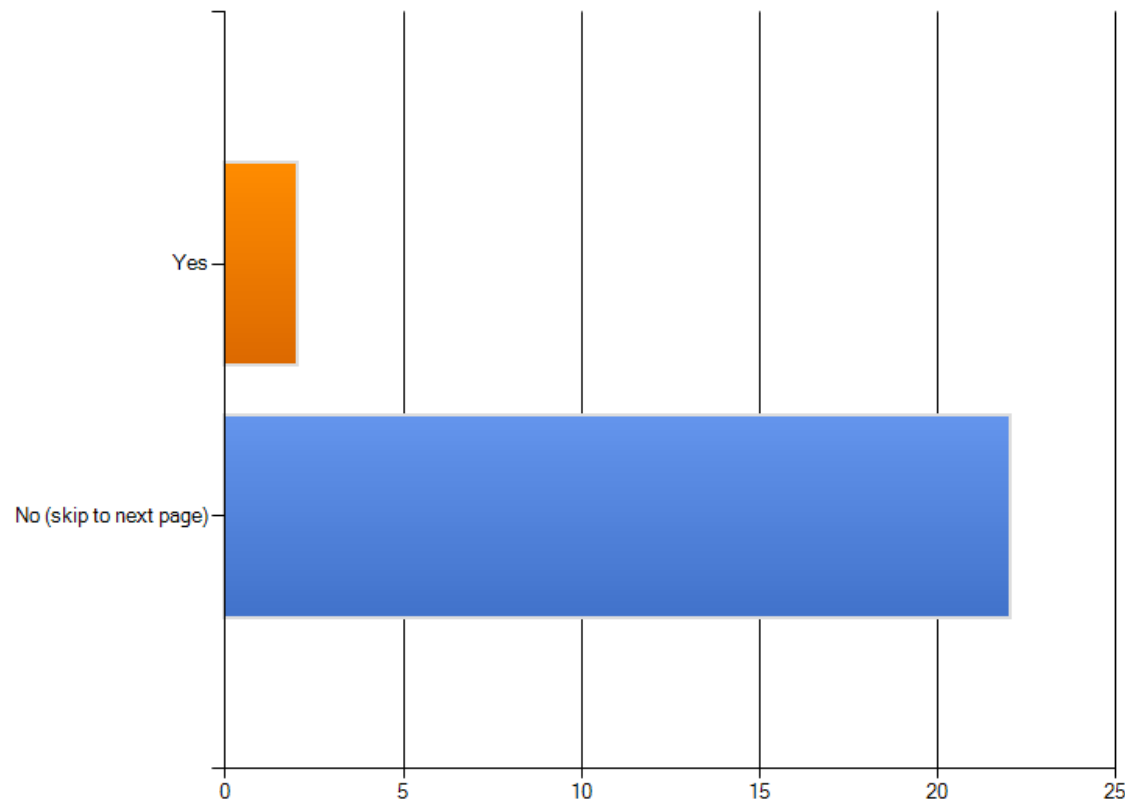
Do you plan to register Deposition / Thin Film / CVD / Sputtering / MoCVD / PVD chemicals under REACH by November 2010?



- Specific substances to be registered in 2010
  - Chlorosilanes
  - Pyrophorics

# Etching Chemistries

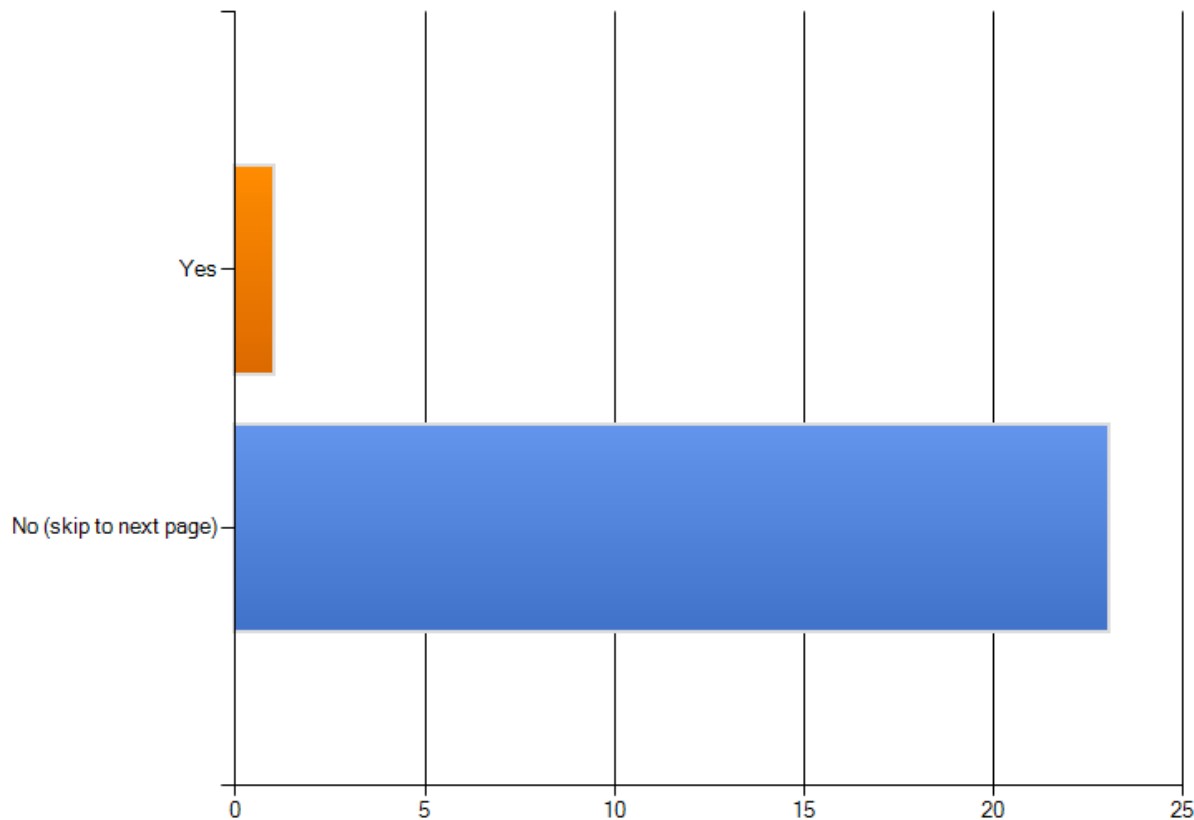
Do you plan to register Etching (wet or dry) chemicals under REACH by November 2010?



- Specific substances to be registered in 2010
  - Hydrogen peroxide
  - Hydrofluoric acid
  - Ammonium fluoride

# Metallization Chemicals

Do you plan to register Interconnect / Metallization (Plating) chemicals under REACH by November 2010?

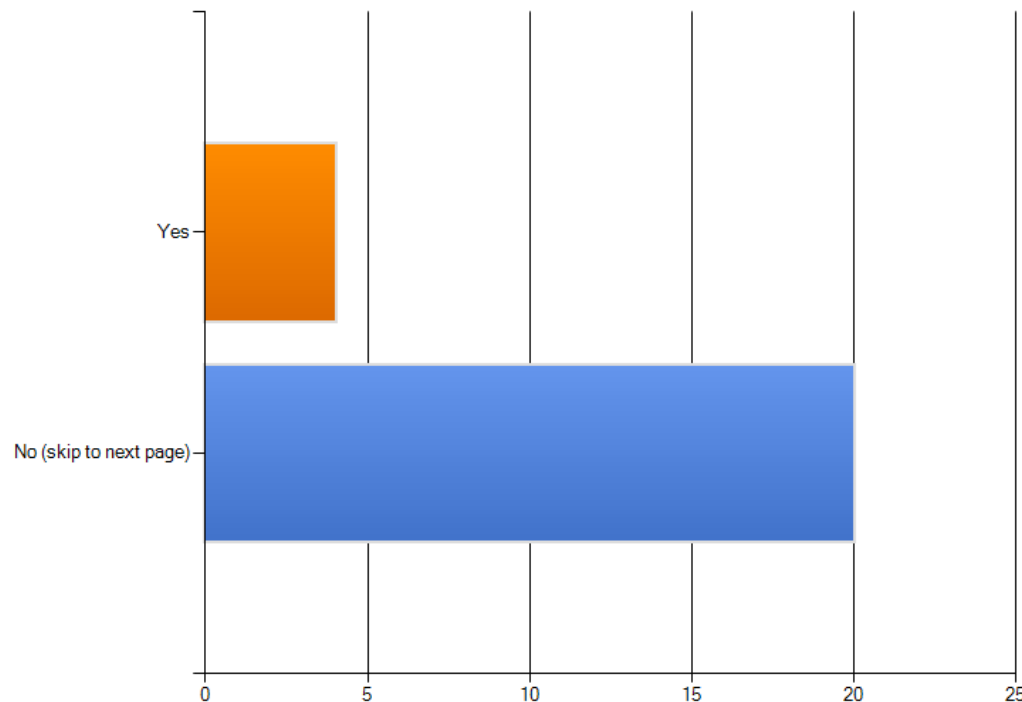


Specific substances to be registered in 2010

- Not specified

# Chemical Mechanical Planarization Chemicals

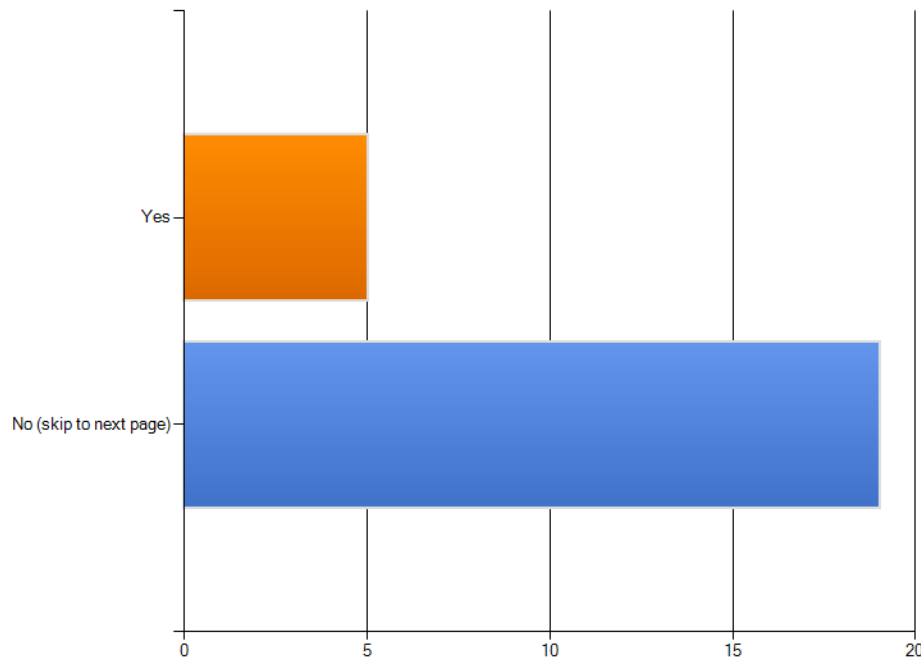
Do you plan to register Planarization - Chemical Mechanical Polishing (CMP) chemicals under REACH by November 2010?



- Specific substances to be registered in 2010
  - amorphous silica
  - Colloidal Silica
  - Phtalimido peroxy hexaonic acid
  - Peracetic Acid
  - Confidential Business Information

# Cleaning Chemicals

Do you plan to register Cleaning chemicals under REACH by November 2010?

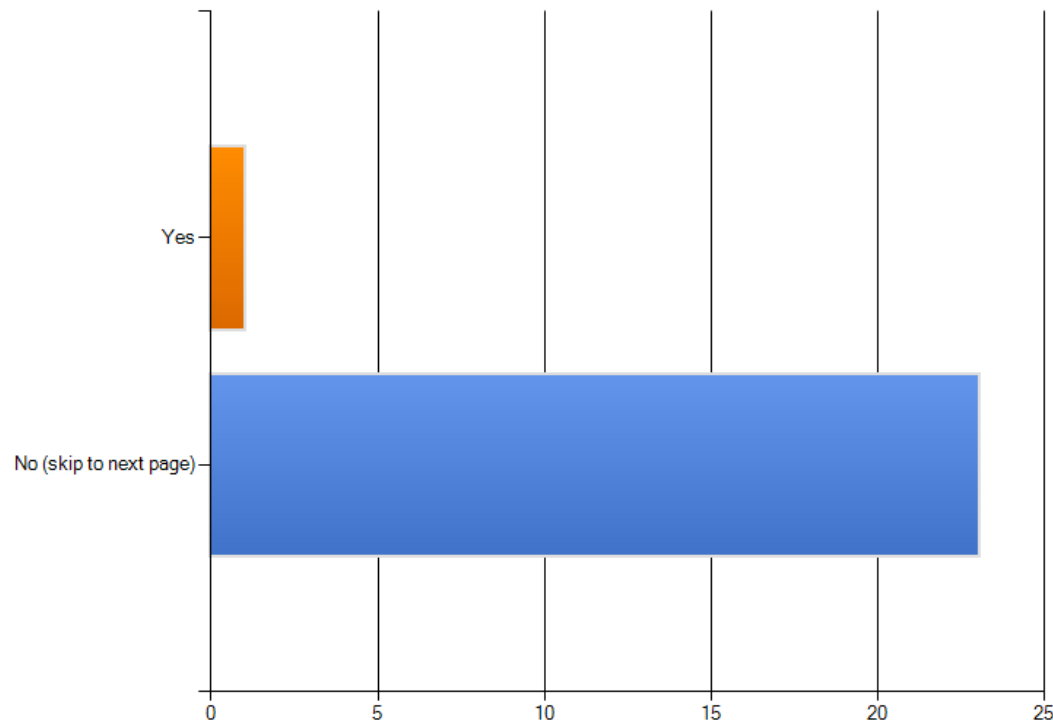


- Specific substances to be registered in 2010
  - Highly flammable
  - basic cleaning chemicals (like mineral acids : sulfuric , nitric acid etc., some base/ lyes , as well as organic solvents)
  - Ammonium fluoride
  - Ammonium hydroxide
  - Ethyl lactate
  - Ethylene glycol
  - Hydrofluoric Acid
  - Isopropyl alcohol
  - Nitric acid
  - Phosphoric acid
  - Sulphuric acid
  - Hydrogen peroxide
  - Not specified
  
- Substances requiring Exposure Scenarios but not registered in 2010
  - Perfluoroalkanes & Perfluoroamines

# Equipment Install/Maintenance Chemicals



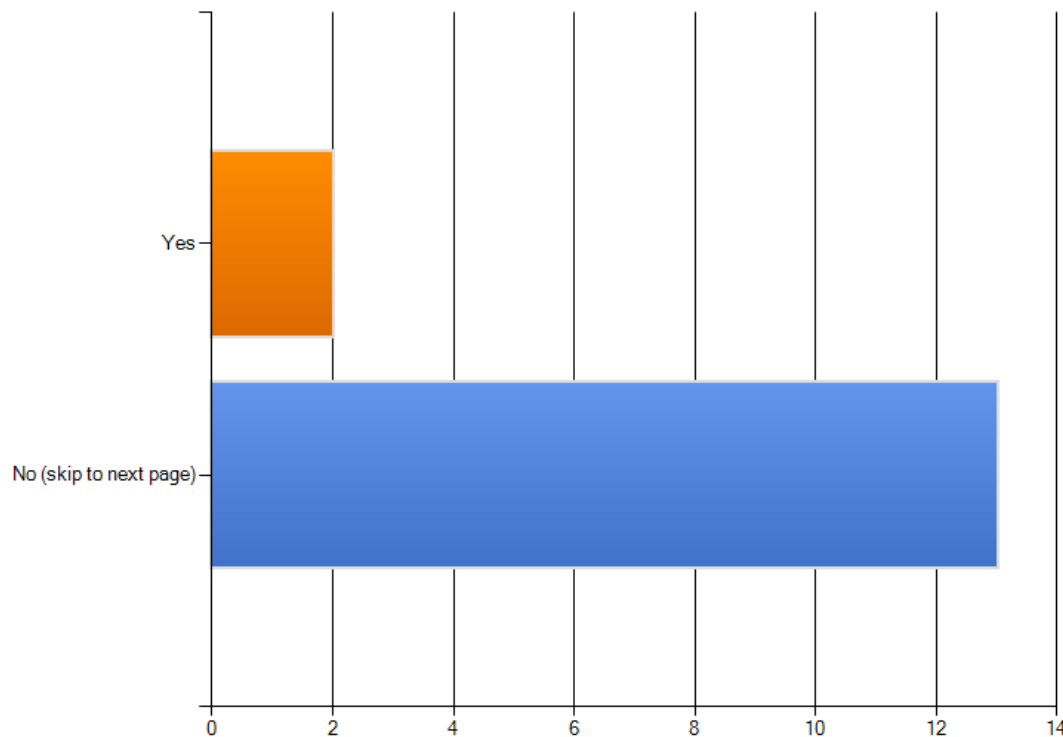
Do you plan to register Equipment Installation / Maintenance chemicals under REACH by November 2010?



- Specific substances to be registered in 2010
  - Monomer precursors for fluorinated polymers:  
Tetrafluoroethylene,  
Vinylidene fluoride,  
Hexafluoropropene

# Other Chemicals

Do you plan to register under REACH any other chemicals you sell to semiconductor device manufacturers by November 2010?



- Specific substances to be registered in 2010
  - Photomask Production Chemical(s)
  - Confidential Business Information

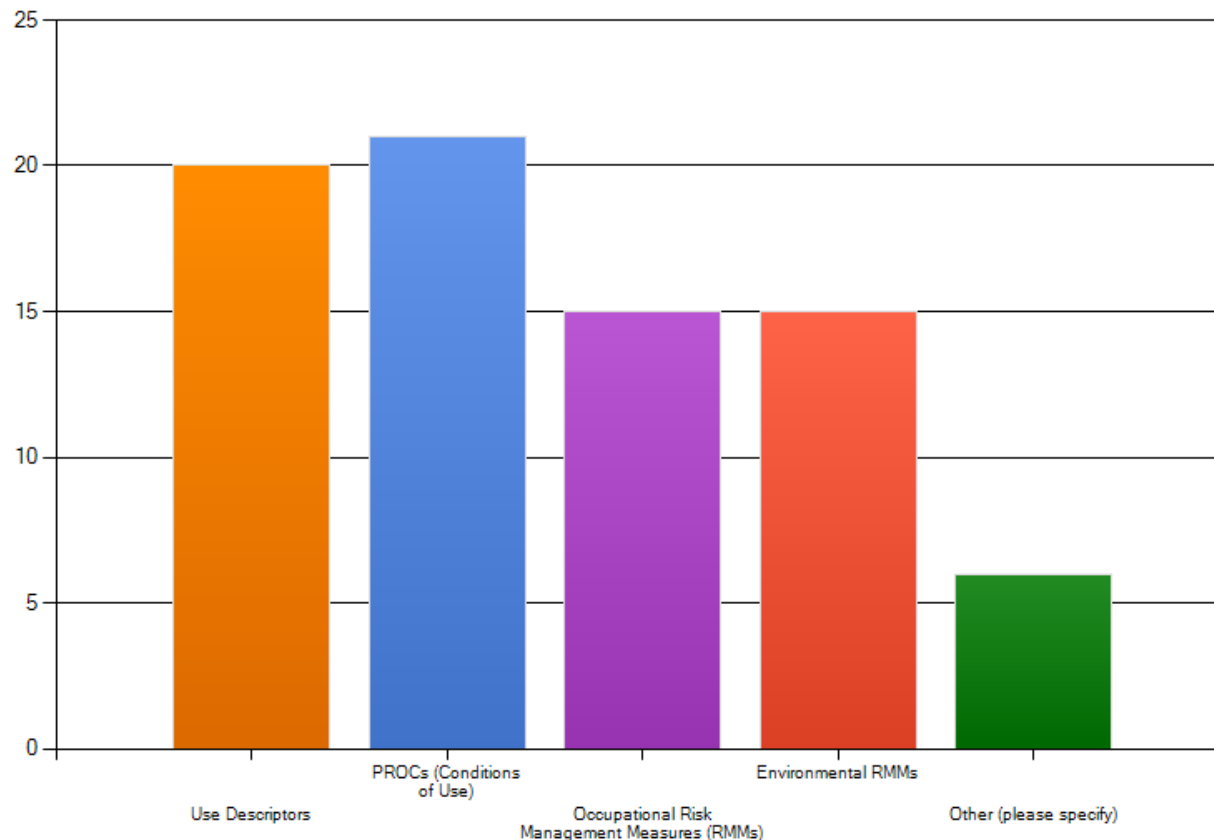
# Compiled List of Semiconductor Chemicals for 2010 Registration

- Acrylamide
- Diallyl dimethyl ammonium chloride monomers
- Hydrogen peroxide
- highly flammable
- Chlorosilanes
- Pyrophorics
- Hydrofluoric acid
- Ammonium fluoride
- amorphous silica
- Colloidal Silica
- Phtalimido peroxy hexaonic acid
- Peracetic Acid
- Confidential Business Information
- Highly flammable
- basic cleaning chemicals (like mineral acids : sulfuric , nitric acid etc., some base/ lyes , as well as organic solvents)
- Ammonium fluoride
- Ammonium hydroxide
- Ethyl lactate
- Ethylene glycol
- Hydrofluoric Acid
- Isopropyl alcohol
- Nitric acid
- Phosphoric acid
- Sulphuric acid
- Hydrogen peroxide
- Monomer precursors for fluorinated polymers: Tetrafluoroethylene, Vinylidene fluoride, Hexafluoropropene
- Photomask Production
- Confidential Business Information

# Information Required from Semiconductor Industry to Complete Chemical Safety Assessment



What information do you need from semiconductor industry partners to complete a chemical safety report with exposure scenario?



Other (please specify):

- may depend on substance properties
- ERCS (Environmental Release Categories), concentration in mixture
- ERCs
- Company will communicate further with its own suppliers and customers to gather the information that will be needed to ensure compliance
- ERCs
- Nothing