

# Prescreen is a quick check

- Reviewing pages 4 - 8 for completeness
- Chemical name (Method type) and structure are provided, correct, and consistent
- Polymeric substances have page 5 complete
- Page 6 information is consistent and a generic name is present for CBI ID's
- Process Diagram is complete and consistent

# Page 4 Common Mistakes

- Class 1 compounds have uniquely defined structure, name, and molecular formulas
- Specific isomers vs. unspecified notation (substituent number and location (xylene); geometry (oleic = cis) and stereochemistry (R/S; bonds); salt ratios (monosodium); counter ions balance; branching (i-, t-, neo-))
- Common abbreviations (C1 - C4, Ph)

# Page 4 Common Mistakes

- Three types of Class 2 substances (variable)
- MF and structure definable (xylene unspecified isomer; polyacid unspecified salt; class 1 components)
- Inorganic (send crystal data, if available; feedstock source and ratios)
- UVCB (What is known/ascertainable)

# Class 2 Information

- Provide correct identity (not 9CI ID) for all reactants and immediate precursors
- CAS numbers (if available)
- Range and typical composition (structure)
- Nature of reaction (bonds formed, redox, substitution/addition rx'n)
- Process info (boiling range, cut, salts)

# Page 4 Common Mistakes

- Choosing to complete page 5
- Chemical name has key phrases (poly; ethoxylated, silicones, ....)
- Whether the reaction is polymerization is unimportant (polyacrylic acid + MeOH is an esterification that produces a polymer)
- # of repeating units is small (variable)

# Page 5 Common Mistakes

- Molecular Weight and Oligomeric Content if present will be considered complete
- Lowest Number Average Molecular Weight (NAVG) is not the smallest peak value, but the lowest overall NAVG for several sample or batch runs of the polymer
- % < 500, 1000 MW excludes monomers

# Page 5 Section 2b Mistakes

- Prescreen does not check CAS #'s or ID's (this is too detailed and performed later)
- Correct name and CAS # are provided for each feedstock (must be exact but not IES)
- List what is charged to the vessel (a polymeric feedstock should not be broken into component monomers)

# Page 5 Section 2b Mistakes

- Initiators and Chain Terminating agents are required (often missing from imports)
- 2% rule must be consistent (if identity isn't marked in 2b(4) the feedstock must not appear in the name; “incorporated” must be noted and substantiated)
- Typical composition is usually a range (avoid using “0”; note 2% rule change)



# Page 5 Polymer Name

- CAS 9CI rules specify name and format (propenoic vs acrylic; listing the monomers in the correct order; derivatives and reaction products; prepolymers in polymers)
- Suggest using CAS IES
- Follow 2% rule from the list of feedstocks in 2b

# Structures for Polymers

- All Class 1 feedstocks should be drawn out; most Class 2 materials are known or well documented in the literature
- how they are arranged is not important
- expected bond formations should be represented
- abbreviations for complex structures are allowed when fully described

# Structures for Polymers

- Add sheets as necessary (5a, 5b, ....)
- Avoid generic structures (A-B-A-B-)
- Class 2 feedstocks are fully represented (rosin, dimer fatty acid, tall oil fatty acid, etc.. have many acceptable representations)
- Indicate terminal groups (while not incomplete, we'll assume worst case)

# Using CBI Feedstocks

- CAS name is not required for your PMN
- Structure must only reflect what you know (if you derivatize a CBI polymer show the product [Polymer]-CO<sub>2</sub>Me)
- Your supplier must supply the EPA with the information necessary to review the submission (name, structure, page 5 data)  
other helpful information: PMN number

## Page 6 Information

- The impurities and byproducts listed here must be consistent with the product and feedstock information provided for the PMN identity
- Generic names must be provided for materials whose chemical name is CBI
- Synonym names must be consistent

# Page 8 Information

- Required for all manufactured PMN's
- List all chemicals used in the manufacture of the PMN (including catalysts, solvents, work-up chemicals (salt formation))
- Amounts charged for the reactive components and all chemicals formed
- Specify order and separate steps (not 1 pot that has everything charged at once)