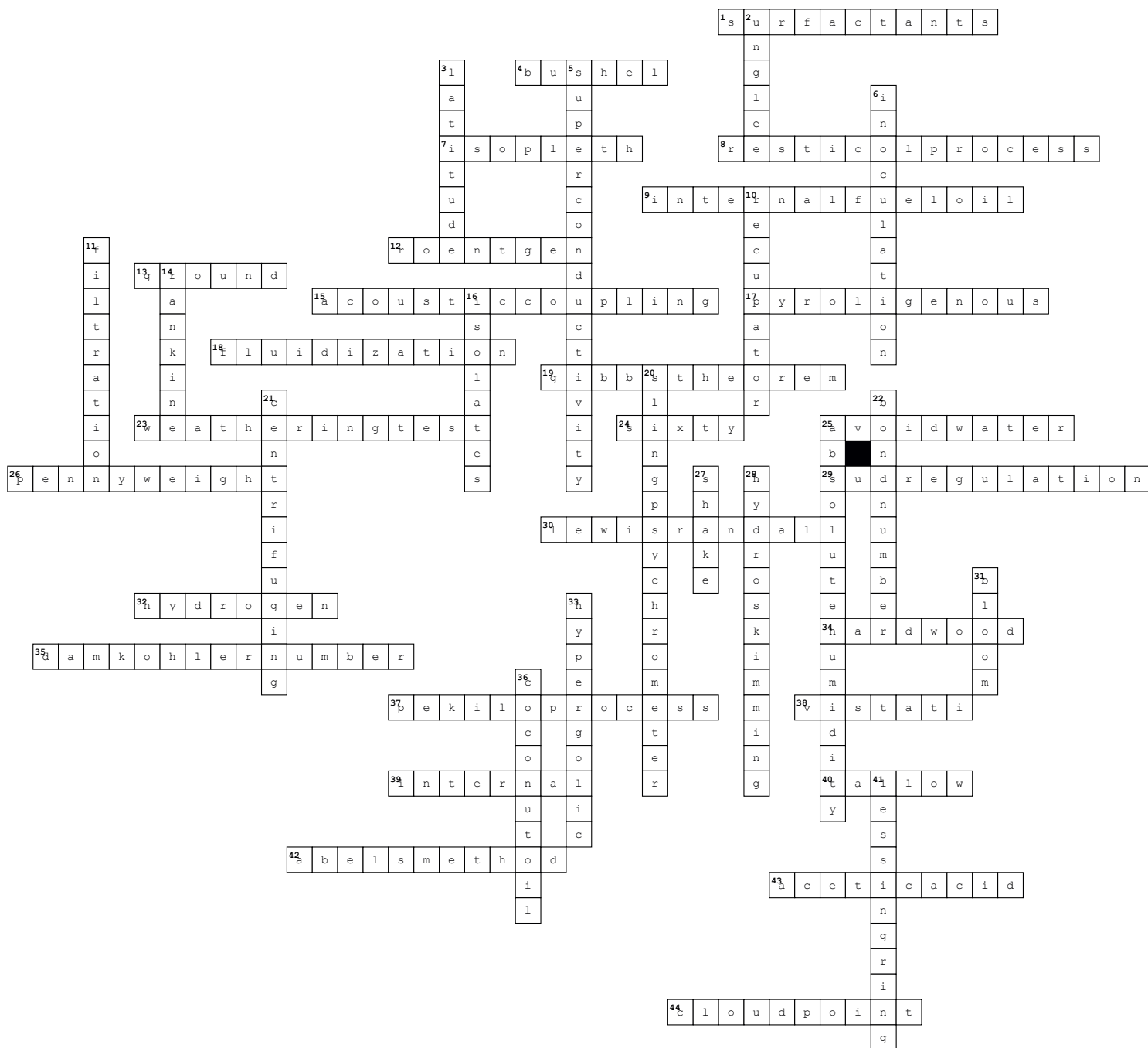


Chem-E-Cross - January Edition



Across

- Compound that affects surface tension when dissolved in water or water solutions or which similarly affects interfacial tension between two liquids. (General term) XYZ(166).(Go for general term)
- 1 Liter multiplied by 35.23907 gives the unit (US unit)
- A vertical line used in a liquid–vapour phase diagram for two substances. The line corresponds

Down

- Obsolete Indian traditional unit of length Indian used before 1920. (it is equal to 1.42875 m).Check the diagram of word as it an indian word.(Ex:sri is also written as sree)
- 60 nautical miles are equal to 1 degree of
- The physical state in which all resistance to the flow of direct-current electricity disappears is defined as

- to constant composition as the pressure changes.
8. The trade name for an acid gas removal process. It uses methanol as the solvent to remove hydrogen sulphide and carbon dioxide from gas streams. (Interchange s and c in the final answer)
 9. The common furnace oil used in refineries. It is predominantly a mixture of asphalt, short residue, and wax. (Hint: answer contains answer of across 39). It is mostly used for combustion in engines.
 12. One coulomb/ton multiplied by 2573976 gives the unit. It is used to measure radiation.
 13. Obsolete Indian traditional unit of surface used in land measurements before 1920. (it is equal to 20.03 sq. meter)
 15. This phenomenon occurs when the shell-side fluid is a low-density gas and the standing waves in the shell are in phase with vortex shedding from the tubes.
 17. Fill XYZ(2) acid which ancient Egyptians used for emblaming. (Interchange n and e in the obtained answer for final answer)
 18. This phenomenon occurs when the fluid flow rate is great enough so that the pressure drop across the bed equals the weight of the bed.
 19. The partial molar property, other than the volume, of a constituent species in an ideal gas mixture is equal to the corresponding molar property of the species as a pure ideal gas at the mixture temperature but at a pressure equal to its partial pressure in the mixture. Which theorem states this?
 23. LPG is tested for its quality as required by its use as a domestic cooking gas. The name of the test is
 24. Apex angle of conical heads used in bottoms head of chemical process equipments is usually about how many degrees?
 25. What does the symbol striked W in HMI System where H stands for Hazardous. try to use synonyms for the first part of answer it must be a single word.
 26. One gram multiplied by 1.555173 gives the unit
 29. This is necessary for XYZ(166) to do an efficient job of cleaning in a washing machine. (Hint: Often achieved by combining different types such as anionics with nonionics or anionics with soap). (Hint: Related to Across 1 check it out). Process name so answer end with -tion and remove last s in the first term (ex: xxxxxxxxxxxtion is obtained answer, Final answer will be xxxxxxxxxxxtion). (First part hint: The frothy soap bubbles you make when you wash your hands)
 30. Which rule shows that the fugacity of each species
 6. The injection of a small volume of liquid containing living microorganisms into a bioreactor to initiate a biochemical process such as fermentation
 10. A type of heat exchanger used to heat process fluids using hot waste fluids. The hot and cold fluids pass through separate channels as either single or multi-pass. (Eliminate 'er' term in the answer to obtain final answer)
 11. Find XYZ(112) unit operation of the INSULIN plant. Refer to Down 21 for more info.
 14. 5 Kelvin equal 9 XYZ in a particular temperature scale. Find XYZ ?
 16. These are pure chemical compounds whose source is an essential oil or other natural perfume material. (Example pinene from turpentine). Hint: These are valuable when a specific scent is necessary for the creation of a specific scent profile, and when a certain amount of delicacy is needed to create a fragrance.
 20. This device is composed of a wet- and dry-bulb thermometer mounted in a sling which is whirled manually to give the desired gas velocity across the bulb. (Hint : widely used to measure atmospheric humidity)
 21. Grinder -> alcohol extraction -> XYZ(111) -> neutralization followed reacidification -> fat separation -> XYZ(112) -> evaporation, salting out, filtration. Above given flow is the unit operation of the INSULIN plant. The input feed for the plant is the liquids of pancreatic glands. Find the XYZ(111) unit operation. (PFD: <https://ibb.co/1bZbqgM>). (Answer format: Generally it is used as xxxxxxxxgation here the format is xxxxxxxxging)
 22. Ratio of gravitational force to surface tension force is equal to
 25. This quantity is equal to the pounds of water vapor carried by 1 lb of dry air
 27. 10 nano seconds are equal to this unit
 28. A simple form of petrochemical refinery that uses atmospheric distillation to separate crude oil, and also has the capacity for naphtha reforming and associated treatment processes.
 31. The darkness produced by the flame of the oil while burning in a standard glass
 33. Substances that ignite spontaneously when mixed with an oxidizer
 36. XYZ(199) is usually mixed with XYZ(200) in the soap kettle to increase the solubility of soap. (Hint related to Across 40)

in an ideal solution is proportional to its mole fraction

32. This gas is majorly produced in the platforming unit of petrochemical refineries
34. Ancient Egyptians used the volatile product of XYZ(1) distillation and XYZ(2) acid for embalming. Before synthetic organic chemistry became well established and this destructive XYZ(1) distillation provided several important industrial chemicals like acetone, acetic acid and methanol. Fill XYZ(1) here.
35. The Ratio of Reaction rate to the Convection rate is known as
37. A biochemical process developed in Finland for the production of single cell protein using a fungal biomass
38. 12 angulas (fingers) are equal to one XYZ. Find XYZ (Hint: Indian Units). In the answer shift 's' two places backward to obtain final answer. (Ex: 'abcdef' shifting 'd' two places back gives 'adbcef')
39. The partial condensation of liquid within a distillation column that descends down the column is called XYZ reflux. Find XYZ?
40. Principle fatty material used in manufacturing of soap. Let answer be XYZ(199)
42. The open cup method performed in laboratory for finding the flash point of liquids is also known as XYZ method. Name the XYZ method. This method is also suitable for determination of close cup flash point determination of Petroleum and petroleum products having flash points below 70° C. (Answer format : xxxxxmethod will be answer)
43. Gibbs energy efficiency for conversion glucose($C_6H_{12}O_6$) to various other products is highest for _? (Hint: This conversion happens in hydrothermal conditions with CuO)
44. The temperature at which oil becomes hazy or cloudy due to the onset of wax crystallisation or solidification

41. A type of packing material used in packed columns and towers that provides a high surface-to-volume ratio