



NCERT – GRADE 10 CHEAT SHEET

ACIDS, BASES AND SALTS



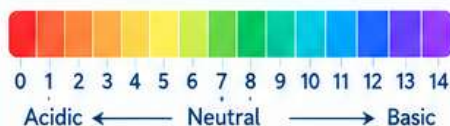
Part B – More about Salts (Continued)

Based on NCERT (Curiosity) Grade 10 Science | Chapter 2 | Reprint 2026–27 | Pages 52 – 73

Importance of pH in Everyday Life

What is pH?

- pH tells us how acidic or basic a solution is.
- Scale: 0 (strongly acidic) to 14 (strongly basic).
- 7 is neutral.



Importance in Everyday Life

- Digestion:** Stomach acid (pH 1–3) helps in digestion. Antacids (basic) relieve acidity.
- Oral health:** Tooth decay occurs in acidic conditions. Toothpaste is mildly basic.
- Soil health:** Farmers maintain correct pH for better crop growth.
- Drinking water:** pH around 7 is safe and healthy.
- Cleaning:** Many cleaning agents are basic (e.g., soap).
- Medicines:** Antiseptics and creams are formulated at suitable pH.

Real Life Examples

Item / Situation	pH (approx.)
Stomach acid	1 – 3
Lemon juice	2
Vinegar	2 – 3
Pure water	7
Seawater	8 – 8.5
Soap solution	9 – 10
Household ammonia	11 – 12

Maintaining the right pH helps in health, safety and environmental balance.

More about Salts

Family of Salts

- Salts are ionic compounds formed by the reaction of an acid with a base.
- They can be classified into different families based on their composition.

Common Families of Salts

Halides	– NaCl, KCl, CaCl ₂
Nitrates	– KNO ₃ , NaNO ₃ , Ca(NO ₃) ₂
Carbonates	– Na ₂ CO ₃ , CaCO ₃
Sulphates	– Na ₂ SO ₄ , CuSO ₄
Phosphates	– Na ₃ PO ₄ , Ca ₃ (PO ₄) ₂



Each salt has its own properties and uses.

pH of Salts

- Salts of strong acid and strong base are usually neutral (pH = 7).
- Salts of strong acid and weak base are acidic (pH < 7).
- Salts of weak acid and strong base are basic (pH > 7).
- Salts of weak acid and weak base may be neutral or slightly acidic/basic.

Examples	pH (approx.)
NaCl (strong acid + strong base)	7
NH ₄ Cl (strong acid + weak base)	5 – 6 (acidic)
CH ₃ COONa (weak acid + strong base)	8 – 9 (basic)
Na ₂ CO ₃ (weak acid + strong base)	11 – 12 (basic)

pH helps us understand the nature of a salt solution.

Chemicals from Common Salt

- Common salt (sodium chloride) is an important raw material in industry.
- It is used to produce many useful chemicals.



Common salt is a key raw material in the chemical industry.

Are the Crystals of Salts really Dry?

- No. Crystals of salts are often hydrated, meaning they contain water molecules.
- Example: Copper sulphate crystals contain water of crystallisation. . .



Copper sulphate crystals (CuSO₄ · 5H₂O)

On heating:

- The blue crystals lose water and turn white (anhydrous).
- Water is driven off as steam.

So, salt crystals are not completely dry; they often contain water.



Quick Facts

- ✓ Salts are formed by the reaction of an acid and a base.
- ✓ Salts can be neutral, acidic or basic depending on their composition.
- ✓ Common salt (NaCl) is used to make many important chemicals.
- ✓ Many salts contain water of crystallisation.
- ✓ pH helps us understand the nature of salt solutions.



Common Mistakes

- ✗ Thinking all salts are neutral (in fact, some are acidic or basic).
- ✗ Confusing salt with an acid or a base.
- ✗ Believing salt crystals are completely dry.
- ✗ Forgetting that pH depends on the nature of the ions in the salt.



Key Takeaway

- ✓ pH is important in daily life for health, environment and safety.
- ✓ Salts are useful compounds with diverse families.
- ✓ The pH of a salt depends on the acid and base used to form it.
- ✓ Common salt gives us many useful chemicals.
- ✓ Salt crystals often contain water of crystallisation.



Pumpa

Small changes in pH... make a big difference!

