

8.7 Persistent Organic Pollutants (POPs)

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS persistent organic pollutants 持久性有机污染物 • biomagnification 生物放大

Objective

Build the skills to answer exam questions on **persistent organic pollutants (POPs)**.

You must be able to:

- describe **POPs** 持久性有机污染物 (persistent, bioaccumulate, travel far)
- give examples (DDT, PCBs)
- explain why they are dangerous

1 Worked examples

Study these first. Each one shows the method for a question type used later — follow the steps and you can do the Practice and Exam-style questions yourself.

■ What POPs are

Persistent organic pollutants (POPs) are synthetic chemicals that:

- **persist** (do not break down for a long time),
- **bioaccumulate** (build up in fatty tissue),
- **travel long distances** (even to the Arctic), and
- are **toxic** (cause cancer, reproductive harm).

■ Examples

DDT (pesticide), **PCBs** (industrial), dioxins. Many are now banned or restricted (e.g. by the Stockholm Convention).

■ Why they are dangerous

Because they persist and bioaccumulate, they **build up in food chains** (biomagnification) and reach harmful levels in top predators and humans, far from where they were used.

■ A worked link

DDT sprayed decades ago still persists and accumulates in birds of prey, thinning their eggshells — an effect that led to its ban.

2 Practice

Now apply the methods above.

2.1 State two properties of POPs. [2]

2.2 Give one example of a POP. [1]

2.3 Why can POPs reach remote places like the Arctic? [1]

3 Exam-style questions

3.1 POPs are especially dangerous because they [1]

- | | |
|---|---|
| A | B |
| C | D |
- A** break down instantly
B persist and bioaccumulate in food chains
C stay only where used
D are harmless

3.2 DDT was widely used decades ago and is still found in wildlife.

(a) Explain why it is still present. [2]

(b) State one harmful effect on wildlife. [1]

3.3 Explain why POPs reach their highest concentrations in top predators. [2]
