# DNA*Zap*™ PCR DNA Degradation Solutions

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**WARNING!** Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from **thermofisher.com/support**.

## Product description

Invitrogen™ DNA*Zap*™ PCR DNA Degradation Solutions are a pair of reagents that contain ingredients capable of degrading high levels of contaminating DNA and RNA from all types of surfaces. They are designed for the prevention of DNA contamination in PCR applications. The two solutions are, by themselves, innocuous. Upon mixing, however, they form a potent, short-lived nucleic acid degrading intermediate. Additional experiments demonstrate that the DNA is degraded down to non-amplifiable fragments.

## Contents and storage

| Contents | Amount | Storage |
|---|---|---|
| Solution 1 | 250 mL | 2°C to 8°C |
| Solution 2 | 250 mL | |

## Procedural guidelines

- When using the aerosol attachment, always work in the fume hood. Since the full toxic effects of the aerosol mixture are not known, do not spray the two solutions simultaneously. Consult the SDS for further safety instructions.
- DNA*Zap*™ PCR DNA Degradation Solutions contain metal ions which may be of concern if a decontaminated vessel, piece of equipment, or apparatus will be used for an experiment which is sensitive to trace amounts of metals. Although thoroughly rinsing with distilled water after DNA*Zap*™ mixture treatment is usually sufficient to remove any trace metals, you can add a 0.1% EDTA rinse as an extra precaution. Follow the EDTA rinse with several distilled water rinses.

## Procedure overview

The DNA*Zap*™ PCR DNA Degradation Solutions are ready to use. Treat the surface to be cleaned with Solution 1 and then immediately apply Solution 2 over Solution 1. Rinse thoroughly with distilled water to remove any degraded nucleic acid and DNA*Zap*™ mixture residue that might be inhibitory to enzymatic reactions. Do not re-use the Solutions.

## Guidelines for treating specific surfaces

| Surfaces | Instructions |
|---|---|
| Work surfaces | 1. Spray or apply Solution 1 to the surface to be cleaned.<br>2. Repeat with Solution 2.<br>3. Wipe with clean paper towels,<br>4. Rinse twice with distilled water and wipe dry with clean paper towels. |
| Lab equipment | 1. Spray or apply Solution 1 to the equipment to be cleaned.<br>2. Repeat with Solution 2.<br>3. Rinse with distilled water and wipe dry.<br>**Note:** Clean small parts by briefly soaking them in a freshly prepared mixture of the two solutions, rinse with distilled water, and dry. |
| Plastic and glass vessels | 1. Spray or apply Solution 1 to coat the entire surface of the vessel.<br>2. Follow with Solution 2.<br>3. Agitate the vessel briefly to make sure that the DNA*Zap*™ Solutions thoroughly cover the surface, then discard the DNA*Zap*™ mixture.<br>4. Rinse thoroughly several times with distilled water. |
| PCR tubes | 1. Spray or apply Solution 1 to the tubes.<br>2. Repeat with Solution 2.<br>3. Briefly vortex, centrifuge, and discard the DNA*Zap*™ mixture.<br>4. Add distilled water, briefly vortex, centrifuge and discard. |
| Pipettors | 1. Spray or apply Solution 1 directly on the pipettor.<br>2. Repeat with Solution 2.<br>3. Rinse thoroughly with distilled water.<br>**Note:** For more thorough cleaning, remove the shaft of the pipettor according to the manufacturer's instructions. Remove seals and gaskets from the shaft. Spray or apply Solution 1, followed by Solution 2. Rinse several times with distilled water, wipe dry, and reassemble. |

## Demonstrate DNA removal with DNA*Zap*™ Solutions

This experiment demonstrates the effectiveness of DNA*Zap*™ Solutions at removing DNA from microcentrifuge tubes.

1. Place 0.5 µg DNA in each of two microcentrifuge tubes.
2. To one tube, add 10 µL of Solution 1 and then 10 µL of Solution 2. To the other tube add 20 µL of distilled water.
3. Briefly vortex and microcentrifuge both tubes, and let sit at room temperature for 5 minutes.
4. Electrophorese both samples on a 1% agarose gel stained with ethidium bromide and view with UV light.

The DNA treated with DNA*Zap*™ Solutions will be completely degraded (there will be no ethidium-stained material).

## Limited product warranty

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**Manufacturer:** Thermo Fisher Scientific Baltics UAB | V.A. Graiciuno 8, LT-02241 | Vilnius, Lithuania