

QIAGEN Sample and Assay Technologies

QIAGEN is the leading provider of innovative sample and assay technologies, enabling the isolation and detection of contents of any biological sample. Our advanced, high-quality products and services ensure success from sample to result.

QIAGEN sets standards in:

- Purification of DNA, RNA, and proteins
- Nucleic acid and protein assays
- microRNA research and RNAi
- Automation of sample and assay technologies

Our mission is to enable you to achieve outstanding success and breakthroughs. For more information, visit www.qiagen.com .

Safety Information

When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate material safety data sheets (MSDSs). These are available online in convenient and compact PDF format at www.qiagen.com/ts/msds.asp where you can find, view, and print the MSDS for each QIAGEN kit and kit component.

Buffer A used for protein purification under denaturing conditions contains guanidine hydrochloride, which can form highly reactive compounds when combined with bleach.

CAUTION: DO NOT add bleach or acidic solutions directly to Buffer A.

If these buffers are spilt, clean with suitable laboratory detergent and water. If the spilt liquid contains potentially infectious agents, clean the affected area first with laboratory detergent and water, and then with 1% (v/v) sodium hypochlorite.

The following risk and safety phrases apply to the components of Ni-NTA Spin Kits.

Ni-NTA Spin Columns

Contains nickel-nitrilotriacetic acid. Risk and safety phrases*: R22-40-42/43. S13-26-36-46

Sodium phosphate stock solution, 5x

Contains sodium hydroxide: Irritant. Risk and safety phrases*: R36/38. S13-26-36-46

Guanidine hydrochloride

Contains guanidine hydrochloride: Harmful, Irritant. Risk and safety phrases*: R22-36/38. S22-26-36/37/39

Imidazole solution

Contains imidazole: Irritant. Risk and safety phrases*: R36/37/38. S23-26-36/37/39-45

24-hour emergency information

Emergency medical information in English, French, and German can be obtained 24 hours a day from: Poison Information Center Mainz, Germany
Tel: +49-6131-19240

* R22: Harmful if swallowed; R36/38: Irritating to eyes and skin; R36/37/38: Irritating to eyes, respiratory system and skin; R40: Possible risks of irreversible effects; R42/43: May cause sensitization by inhalation and skin contact; S13: Keep away from food, drink, and animal feedingstuffs; S22: Do not breathe dust; S23: Do not breathe vapor. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice; S36: Wear suitable protective clothing; S36/37/39: Wear suitable protective clothing, gloves and eye/face protection; S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible); S46: If swallowed, seek medical advice immediately and show container or label.

Table 1. Compatibility of reagents with Ni-NTA

Reagent	Effect	Comments
Buffer reagents		
Tris, HEPES, MOPS	Buffers with secondary or tertiary amines may reduce nickel ions	Up to 100 mM can be used, however sodium phosphate or phosphate-citrate buffer is recommended
Chelating reagents		
EDTA, EGTA	Strip nickel ions from resin	Up to 1 mM has been used successfully in some cases, but care must be taken
Sulfhydryl reagents		
β -mercaptoethanol	Prevents disulfide cross-linkages. Can reduce nickel ions at higher concentration	Up to 20 mM can be used. Do not store resin under reducing conditions
DTT, DTE	At high concentrations (>1 mM) resin may turn reversibly brown due to nickel reduction. Up to 10 mM has been tested and shown not to compromise purification or increase nickel leaching.	Up to 10 mM DTT has been used successfully. Do not store resin under reducing conditions.
Detergents		
Nonionic detergents (Triton®, Tween®, NP-40, etc.)	Removes background proteins and nucleic acids	Up to 2% can be used
Cationic detergents		Up to 1% can be used
Nonionic detergents (β -OG, DM, DDM, Cymal 6, Apo12 9, NG and others)	Resolubilization and purification of membrane proteins	Up to 2% can be used
Zwitterionic detergents (LDAO, CHAPS, CHAPSO)	Removal of background proteins and nucleic acids; purification of membrane proteins	Up to 1% can be used