

# RIPA Buffer (10X)

✓ 15 ml

**Orders** ■ 877-616-CELL (2355)  
orders@cellsignal.com

**Support** ■ 877-678-TECH (8324)  
info@cellsignal.com

**Web** ■ www.cellsignal.com

rev. 01/17/08

This product is for *in vitro* research use only and is not intended for use in humans or animals.

**Description:** RIPA buffer is used to lyse cells and tissues.

**1X RIPA Buffer:**

20 mM Tris-HCl (pH 7.5)  
150 mM NaCl, 1 mM Na<sub>2</sub>EDTA  
1 mM EGTA  
1% NP-40  
1% sodium deoxycholate  
2.5 mM sodium pyrophosphate  
1 mM β-glycerophosphate  
1 mM Na<sub>3</sub>VO<sub>4</sub>  
1 μg/ml leupeptin.

**Directions for Use**

1. If buffer will be continually used, it is recommended that the 10x buffer be kept at 4°C for 1-2 weeks. For longer periods of time, buffer should be stored at -20°C. Aliquotting of 10x buffer is recommended if many small experiments are to be performed.
2. Thaw 10x buffer at 24-30°C, mixing end-over-end.
3. Dilute 10x buffer in Milli-Q water or water of equivalent quality.
4. Chill 1x buffer on ice and add PMSF just prior to use.

**Note:** CST recommends adding 1 mM PMSF immediately before use.

**Lysis:**

For lysis of adherent cells, we recommend the following: (all reagents and lysates must be kept cold).

1. Treat cells as desired.
2. Wash plate with PBS to remove residual media.
3. Add 400 μl of 1x RIPA buffer/10 cm dish.
4. Incubate plate on ice for 5 minutes.
5. Scrape cells.
6. Sonicate briefly.
7. Centrifuge extract for 10 minutes at 14,000 x g in a cold microfuge.
8. Remove supernatant for use.

**Additional notes:**

1. For non-adherent cells, judgment must be used as to the volume of RIPA buffer to add. Addition of volume equal to cell pellet volume is generally appropriate.
2. The CST 10x buffer can be used for lysis of tissue samples, although a homogenization step is recommended after adding RIPA buffer.
3. Additional protease inhibitors can be added to the 1x RIPA buffer without any difficulties.

**Companion Products:**

Cell Lysis Buffer (10X) #9803  
Kinase Buffer (10X) #9802  
ATP (10 mM) #9804  
Blue Loading Buffer Pack #7722  
Red Loading Buffer Pack #7723

# Material Safety Data Sheet (MSDS) for RIPA Buffer (10X)



## I. Identification:

**Product name:** RIPA Buffer (10X)  
**Product Catalog:** 9806  
**CAS number:** Not applicable to mixtures  
**Manufacturer Supplier:** Cell Signaling Technology  
 3 Trask Lane  
 Danvers, MA 01923 USA  
 1-978-867-2300 TEL  
 1-978-867-2400 FAX

## II. Composition/Information on Ingredients:

Other than the ingredients listed below, this product is a mixture that contains less than 1% hazardous chemicals. According to 29CFR 1910.1200(d), ingredients at less than 1% concentration are not considered to be hazardous.

Hazardous Ingredient	CAS#	Percent
Nonidet P-40	9036-19-5	10%
Deoxycholic acid, sodium salt	302-95-4	10%

## III. Hazard Identification:

### EMERGENCY OVERVIEW

To the best of our knowledge, the chemical, physical, and toxicological properties of this solution have not been thoroughly investigated.

**CAUTION: Harmful may cause irritation to:** Eyes, Skin. Mucous membranes, Respiratory system

May be harmful if inhaled, ingested, or absorbed through the skin, eyes, mucous membranes. Wear suitable personal protective equipment.

## IV. First Aid Measures:

**Inhalation:** If inhaled, remove to fresh air. If breathing is difficult, get medical attention.

**Ingestion:** If swallowed, wash out mouth with water provided person is conscious. Get medical attention.

**Skin exposure:** In case of contact, immediately wash skin with soap and water for at least 15 minutes. Remove contaminated clothing. Wash clothing before reuse.

**Eye exposure:** In case of contact with eyes, immediately flush eyes water for at least 15 minutes. Get medical attention.

## V. Fire Fighting Measures:

**Flash Point:** data not available

**Autoignition Temperature:** data not available

**Explosion:** data not available

**Fire extinguishing media:** water spray, dry chemical, foam, or carbon dioxide.

**Firefighting:** wear protective clothing and self-contained breathing apparatus to prevent contact with skin and eyes.

**Specific Hazards:** May emit toxic fumes in a fire situation.

**VI. Accidental Release Measures:** Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves. Absorb liquid with an absorbent material such as sand or vermiculite. Sweep up, avoid raising dust. Transfer contaminated absorbent to a closed chemical waste container for disposal. Ventilate area and wash spill site to complete spill cleanup.

**VII. Handling And Storage:** Store in tightly closed container. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

## VIII. Exposure Controls/Personal:

**Engineering Controls:** Local and/or general exhaust is recommended to keep employee exposures below airborne exposure limits. Maintain eye wash fountain and quick-drench facilities in work area.

**Personal Protective Equipment:** Chemical safety goggles, chemical resistant gloves, suitable protective clothing.

**Exposure Guidelines:** Deoxycholic Acid, Sodium Salt      None established.  
 Nonidet P-40      None established.

## IX. Physical And Chemical Properties:

**Appearance:** colorless  
**Physical State:** liquid  
**Odor:** none  
**Boiling Point:** data not available  
**Melting Point:** data not available  
**Freezing Point:** data not available  
**Volatile Organic Compounds:** data not available  
**Solubility in water:** yes

## X. Stability and Reactivity:

**Stability:** Stable under normal conditions.

**Hazardous Decomposition:** May produce toxic fumes including carbon monoxide and carbon dioxide.

## XI. Toxicological Information:

**Acute Effects:** Irritating to eyes. May be harmful by inhalation, ingestion, or skin absorption. May be irritating to skin, mucous membranes.

**Chronic Effects:** To the best of our knowledge, the chemical, physical, and toxicological properties of this solution have not been thoroughly investigated.

## XII. Ecological Information:

No data available.

## XIII. Disposal Considerations:

Dispose of in accordance with federal, state, local environmental regulations.

## XIV. Transport Information:

### DOT

**Proper Shipping Name:** none

**Hazard Class:** This substance is considered non-hazardous for transport.

**UN/NA:** none

**Packing group:** none

### IATA

**Proper Shipping Name:** none

**Non-Hazardous for air transport:** This substance is considered non-hazardous for air transport.

## XV. Regulatory Information:

EU Regulations/Classifications/Labeling Information: Not available for this chemical substance.

Component	SARA listed	TSCA	Canada DSL	Canada NDSL
Deoxycholic Acid, Sodium Salt	No	Yes	Yes	No
Nonidet P-40	No	Yes	No	No

## XVI. Other Information:

This compound is sold only for research use by personnel familiar with chemicals and who are well trained in good laboratory habits, such as avoiding spills, keeping hands clean at all times and not rubbing eyes with hands while working in the laboratory.

This solution is sold only for use in life sciences research. No other use is intended, and any other use may involve substantive hazards.

The above information is believed to be correct but does not purport to be all-inclusive and shall not be held liable for any damage resulting from the handling of or from contact with the above product. The burden of safe use of this material rests entirely with the user.

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