

**HTScan<sup>®</sup> Tyrosine Kinase Buffer (4X)** 15 ml

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

**Support** ■ 877-678-TECH (8324)  
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This product is for *in vitro* research use only and is not intended for use in humans or animals.

**Description:** HTScan<sup>®</sup> Tyrosine Kinase Buffer (TKB) can be used in tyrosine kinase activity assays.

**Solutions and Reagents:**

1X Kinase Buffer

60 mM HEPES

5 mM MgCl<sub>2</sub>5 mM MnCl<sub>2</sub>3 μM Na<sub>3</sub>VO<sub>4</sub>

*Note: TKB must be supplemented with ATP (#9804) and 2.5 mM dithiothreitol (DTT).*

**Storage:** Store at -20°C.

**Companion Products:**

Kinase Buffer (10X) #9802

Cell Lysis Buffer (10X) #9803

ATP (10 mM) #9804

Tyrosine Kinase Substrate Screening Kit #7450



SAFETY DATA SHEET (SDS): According to the OSHA Hazard Communication Standard 29 CFR 1910.1200  
 Issuing Date: 2014-02-25 Revision Date: 2014-02-25 Version: 1

**SECTION 1. Identification**

**Product identifier**

**Product No.** 9805  
**Product name** HTScan® Tyrosine Kinase Buffer (4X)  
**Other means of identification** 9805M, 9805S

**Recommended use of the chemical and restrictions on use**

**Identified uses** This product is intended for research purposes only.  
**Uses advised against** This product is not intended for use in diagnostic procedures or therapeutics. This product is not intended for use in humans or animals.

**Manufacturer, importer, supplier**

**Manufacturer address** Cell Signaling Technology, Inc.  
 3 Trask Lane  
 Danvers, MA 01923  
 TEL: +1 978 867 2300  
 FAX: +1 978 867 2400  
**Website** www.cellsignal.com  
**Email address** support@cellsignal.com  
**Company phone number** 978-867-2300  
**Emergency telephone number** In case of emergency call CHEMTREC 1-800-424-9300

**SECTION 2. Hazard(s) identification**

**Classification**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

**GHS Label elements, including precautionary statements**

**Signal Word**  
 None

**Hazard statement(s)**  
 None

**Precautionary Statement(s)**  
 None

**Supplementary Hazard Information**

**Hazards not otherwise classified (HNOC)** None

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**SECTION 6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** Use personal protective equipment. Avoid contact with the skin and the eyes.  
**Other information** No information available.

**Environmental precautions**

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.  
**Methods for cleaning up** Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains.

**SECTION 7. Handling and storage**

**Precautions for safe handling**

Ensure adequate ventilation. Wear personal protective equipment.

**Conditions for safe storage, including any incompatibilities**

**Technical measures/Storage conditions** Keep out of the reach of children. Keep container tightly closed. Keep containers tightly closed in a cool, well-ventilated place.  
**Packaging material** No information available.  
**Incompatible products** None known based on information supplied.

**SECTION 8. Exposure controls/personal protection**

**Control parameters**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
manganese dichloride 7773-01-5	TWA: 0.02 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	(vacated) Ceiling: 5 mg/m <sup>3</sup> Ceiling: 5 mg/m <sup>3</sup>	IDLH: 500 mg/m <sup>3</sup> Mn TWA: 1 mg/m <sup>3</sup> STEL: 3 mg/m <sup>3</sup>

(vacated) = Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls**

Showers, eyewash stations, and ventilation systems.

**Individual protection measures, such as personal protective equipment**

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

**Eye/face protection** Tightly fitting safety goggles.  
**Skin and body protection** Wear protective gloves/clothing.  
**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

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**SECTION 3. Composition/information on ingredients**

Chemical Name	CAS No.	Weight %
manganese dichloride	7773-01-5	0.1-1
4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid	7365-45-9	3-7

**SECTION 4. First-aid measures**

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.  
**Skin contact** Wash off immediately with plenty of water for at least 15 minutes. If symptoms persist, call a physician. Wash off immediately with soap and plenty of water.  
**Inhalation** Move to fresh air. If symptoms persist, call a physician.  
**Ingestion** Do NOT induce vomiting. Drink plenty of water. Immediate medical attention is not required. Rinse mouth. If swallowed, do not induce vomiting - seek medical advice. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed**

No information or data specific to the product on this toxicological (health) effect is available.

**Indication of any immediate medical attention and special treatment needed**

**Notes to physician** May cause sensitization of susceptible persons.

**Advice for emergency responders**

**General advice** Show this safety data sheet to the doctor in attendance. Immediate medical attention is not required.  
**Protection of First-aiders** Use personal protective equipment.

**SECTION 5. Fire-fighting measures**

**Extinguishing media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
**Unsuitable Extinguishing Media** CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact.

**Explosion Data**

**Sensitivity to Mechanical Impact** None.  
**Sensitivity to Static Discharge** None.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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**Hygiene measures**

When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.

**SECTION 9. Physical and chemical properties**

**Information on basic physical and chemical properties**

**Physical state** Liquid  
**Appearance** Suspension  
**Odor** No information available  
**Color** Brown  
**Odor Threshold** No information available  
**pH** 7.3 @ 20 °C  
**Melting point/freezing point** No information available  
**Initial boiling point and boiling range** No information available  
**Flash point** No information available  
**Evaporation rate** No information available  
**Flammability (solid, gas)** No information available  
**Upper flammability limit** No information available  
**Lower flammability limit** No information available  
**Vapor pressure** No information available  
**Vapor density** No information available  
**Relative density** No information available  
**Solubility** No information available  
**Solubility in other solvents** No information available  
**Partition coefficient: n-octanol/water** No information available  
**Autoignition temperature** No information available  
**Decomposition temperature** No information available  
**Explosive properties** No information available  
**Oxidizing properties** No information available  
**VOC content** No information available  
**Viscosity** No information available  
**Density** No information available

**SECTION 10. Stability and reactivity**

**Reactivity**

No information available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

**Hazardous reactions** None under normal processing.  
**Hazardous polymerization** None under normal processing.

**Conditions to Avoid**

No information available.

**Incompatible Materials**

None known based on information supplied.

**Hazardous Decomposition Products**

None known based on information supplied.

### SECTION 11. Toxicological information

#### Information on likely routes of exposure

<b>Inhalation</b>	There is no data available for this product.
<b>Eye contact</b>	There is no data available for this product.
<b>Skin contact</b>	There is no data available for this product.
<b>Ingestion</b>	There is no data available for this product.

#### Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
manganese dichloride 7773-01-5	= 250 mg/kg ( Rat )	-	-
4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid 7365-45-9	> 316 mg/kg ( Quail )	-	-

The following values are calculated based on chapter 3.1 of the GHS document  
ATEmix (oral) 5216.58 mg/kg

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Symptoms</b>	No information available.
<b>Corrosivity</b>	No information available.
<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	No information available.
<b>Carcinogenicity</b>	No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA.
<b>Reproductive toxicity</b>	No information available.
<b>Developmental Toxicity</b>	No information available.
<b>Teratogenicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Chronic Toxicity</b>	Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.
<b>Neurological effects</b>	No information available.
<b>Aspiration Hazard</b>	No information available.

### SECTION 12. Ecological information

#### Ecotoxicity

5.9702% of the mixture consists of component(s) of unknown hazards to the aquatic environment

<b>Persistence and degradability</b>	No information available.
<b>Bioaccumulation</b>	No information available.
<b>Mobility</b>	No information available.

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

#### U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Irsodium tetroxovanadate 13721-39-6	Listed	-	-
manganese dichloride 7773-01-5	Listed	-	Listed

#### U.S. EPA Label Information

This product does not contain any substances regulated as pesticides.

### SECTION 16. Other information

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#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

#### Other adverse effects

No information available.

### SECTION 13. Disposal considerations

#### Waste Disposal Methods

Dispose of in accordance with all applicable national environmental laws and regulations.

#### Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

### SECTION 14. Transport information

This material is not subject to regulation as a hazardous material for shipping.

### SECTION 15. Regulatory information

#### All of the components in the product are on the following inventory lists:

<b>TSCA</b>	Complies
<b>DSL</b>	Complies
<b>NDSL</b>	Complies

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS No.	SARA 313 - Threshold Values %
manganese dichloride - 7773-01-5	7773-01-5	1.0

#### SARA 311/312 Hazard Categories

<b>Acute Health Hazard</b>	No
<b>Chronic Health Hazard</b>	No
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

#### Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

#### CERCLA