



**SAFETY DATA SHEET (SDS):** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200  
**Issuing Date:** 2015-01-23      **Revision Date:** 2015-01-23

**Version:** 2

**SECTION 1. Identification**

Product identifier

**Product number**                                4174  
**Product name**                                 TPA (12-O-Tetradecanoylphorbol-13-Acetate)  
**Other means of identification**            4174S

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  
United States  
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 substance/mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<b>Skin corrosion/irritation</b>	Category 2
<b>Serious eye damage/eye irritation</b>	Category 2
<b>Carcinogenicity</b>	Category 2
<b>Specific target organ toxicity - single exposure (STOT SE)</b>	Category 3

GHS Label elements, including precautionary statements



**Signal Word**  
Warning

**Hazard statement(s)**

Causes skin irritation  
 Causes serious eye irritation  
 May cause respiratory irritation  
 Suspected of causing cancer

**Precautionary Statement(s)**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required  
 Wash face, hands and any exposed skin thoroughly after handling  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 IF exposed or concerned: Get medical advice/attention  
 IF ON SKIN: Wash with plenty of soap and water  
 If skin irritation occurs: Get medical advice/attention  
 Take off contaminated clothing and wash before reuse  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Store locked up  
 Store in a well-ventilated place. Keep container tightly closed  
 Dispose of contents/container to an approved waste disposal plant

**Supplementary Hazard Information**

Hazards not otherwise classified (HNOC) None

### SECTION 3. Composition/information on ingredients

<b>Formula</b>	C <sub>36</sub> H <sub>56</sub> O <sub>8</sub>
<b>Molecular Weight</b>	616.83 g/mol
<b>Chemical nature</b>	Monoconstituent substance
<b>Synonyms</b>	TPA; Tetradecanoylphorbol acetate; PMA; Phorbol-12-myristate 13-acetate;

Chemical Name	CAS No	Weight %
Myristic acid, 9-ester with 1,1a-alpha,1b-beta,4,4a,7a-alpha,7b,8,9,9a-decahydro-4a-beta,7b-alpha,9-beta,9a-alpha-tetrahydroxy-3-(hydroxymethyl)-1,1,6,8-alpha-tetramethyl-5H-cyclopropa(3,4)benz(1,2-e)azulen-5-one, 9a-acetate	16561-29-8	100

### SECTION 4. First-aid measures

<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.
<b>Skin contact</b>	Immediate medical attention is required. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Remove and wash contaminated clothing before re-use. Wash off immediately with plenty of water. Immediate medical attention is not required.
<b>Inhalation</b>	Immediate medical attention is required. Move to fresh air. If not breathing, give artificial respiration. Artificial respiration and/or oxygen may be necessary. Consult a physician. Immediate medical attention is not required. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
<b>Ingestion</b>	Do NOT induce vomiting. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Drink plenty of water. Clean mouth with water. Do not induce vomiting without medical advice. Consult a physician.

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

Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

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

Treat symptomatically.

**Advice for emergency responders**

<b>General advice</b>	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. If symptoms persist, call a physician.
<b>Protection of first-aiders</b>	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

**SECTION 5. Fire-fighting measures****Extinguishing media**

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

**Specific hazards arising from the chemical**

No information available.

**Explosion Data**

<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	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.

**SECTION 6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

<b>For non-emergency personnel</b>	Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Other information</b>	No information available.

**Environmental precautions**

Do not flush into surface water or sanitary sewer system.

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

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Use personal protective equipment. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically and collect in suitable container for disposal. Avoid dust formation. Clean contaminated surface thoroughly. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. Take precautionary measures against static discharges.

**SECTION 7. Handling and storage**

**Precautions for safe handling**

Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment.

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

<b>Technical measures/Storage conditions</b>	Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.
<b>Packaging material</b>	No information available.
<b>Incompatible products</b>	None known based on information supplied.

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

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**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.

<b>Eye/face protection</b>	Tightly fitting safety goggles.
<b>Skin and body protection</b>	Wear protective gloves/clothing.
<b>Respiratory protection</b>	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.
<b>Hygiene measures</b>	When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs.

**SECTION 9. Physical and chemical properties****Information on basic physical and chemical properties**

<b>Physical state</b>	Solid
<b>Appearance</b>	Amorphous
<b>Odor</b>	No information available
<b>Color</b>	Light yellow, Colorless
<b>Odor Threshold</b>	No information available
<b>pH</b>	No information available
<b>Melting point/freezing point</b>	50-70 °C
<b>Initial boiling point and boiling range</b>	No information available
<b>Flash point</b>	No information available.
<b>Evaporation rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Upper flammability limit</b>	No information available.
<b>Lower flammability limit</b>	No information available.
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Relative density</b>	No information available

<b>Solubility</b>	Practically insoluble
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient: n-octanol/water</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available.
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Molecular Weight</b>	616.83 g/mol
<b>VOC content</b>	No information available
<b>Viscosity</b>	No information available.
<b>Density</b>	No information available.

## SECTION 10. Stability and reactivity

### Reactivity

No information available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

<b>Hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	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>	May cause irritation of respiratory tract.
<b>Eye contact</b>	Contact with eyes may cause irritation.
<b>Skin contact</b>	Contact with skin may cause irritation.
<b>Ingestion</b>	Ingestion may cause irritation to mucous membranes.

### 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.

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

<b>Symptoms</b>	Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.
<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	The weight of evidence demonstrates that this material is not genotoxic.

<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. Tumorigenic - neoplastic tumors at site of application
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	Respiratory system.
<b>STOT - repeated exposure</b>	No information available.
<b>Chronic Toxicity</b>	Avoid repeated exposure.
<b>Target Organ Effects</b>	Skin, Eyes, Respiratory system, Gastrointestinal tract (GI).
<b>Neurological effects</b>	No information available.
<b>Aspiration Hazard</b>	No information available.

## SECTION 12. Ecological information

### Ecotoxicity

Product does not present an aquatic toxicity hazard based on known or supplied information.

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

### Other adverse effects

No information available.

## SECTION 13. Disposal considerations

### Waste Disposal Methods

Should not be released into the environment.

### 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

### North American Inventory Listing

Chemical Name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
Myristic acid, 9-ester with 1,1a-alpha,1b-beta,4,4a,7a-alpha, 7b,8,9,9a-decahydro-4a-beta, 7b-alpha,9-beta,9a-alpha-tetrahydroxy-3-(hydroxymethyl)-1,1,6, 8-alpha-tetramethyl-5H-cyclopropa(3,4)benz(1,2-e)azulen-5-one, 9a-acetate	Not Listed	Not Listed	Not Listed	Not Listed

### Canadian Workplace Hazardous Materials Information System (WHMIS) Classification



Class D2A - Very Toxic Material at &gt;= 0.1%

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	Yes
<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**

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**

This product does not contain any substances regulated under applicable state right-to-know regulations

**U.S. FIFRA Label Information**

This product does not contain any substances regulated as pesticides.

**US Commerce Department - Export Administration Regulations Information**

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

**U.S. Drug Enforcement Administration Information**

This product does not contain any substances regulated under the DEA.

<b>SECTION 16. Other information</b>
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**Disclaimer**

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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