

**Safety Data Sheet (SDS)** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200

**Issuing Date:** 2015-01-20

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**Version:** 2

## SECTION 1. Identification

### Product identifier

**Product No** 14703  
**Product name** Tofacitinib  
**Other means of identification** 14703L, 14703M, 14703S

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

**Identified uses** This product is intended for research purposes only.

### 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](http://www.cellsignal.com)  
**Email address** [support@cellsignal.com](mailto:support@cellsignal.com)  
**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>Carcinogenicity</b>	Category 2
<b>Reproductive toxicity</b>	Category 1B
<b>Specific target organ toxicity - repeated exposure (STOT RE)</b>	Category 2

### GHS Label elements, including precautionary statements



**Signal Word**  
 Danger

### **Hazard statement(s)**

Suspected of causing cancer. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

**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. Do not breathe dust/fume/gas/mist/vapors/spray.

IF exposed or concerned: Get medical advice/attention.

Store locked up.

Dispose of contents/container to an approved waste disposal plant.

**Supplementary Hazard Information**

No information available.

**Hazards not otherwise classified (HNOC)**

Not applicable.

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

<b>Formula</b>	C <sub>16</sub> H <sub>20</sub> N <sub>6</sub> O
<b>Molecular Weight</b>	312.37 g/mol
<b>Chemical nature</b>	Monoconstituent substance
<b>Synonyms</b>	Tasocitinib; CP-690550; 3-Piperidinamine, 1-(cyanoacetyl)-4-methyl-N-methyl-N-1H-pyrrolo(2,3-d)pyrimidin-4-yl-, (3R,4R)-

Chemical Name	CAS No	Weight %
3-[(3R,4R)-4-methyl-3-[methyl(7H-pyrrolo[2,3-d]pyrimidin-4-yl)amino]piperidin-1-yl]-3-oxopropanenitrile	477600-75-2	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.
<b>Inhalation</b>	Immediate medical attention is required. Move to fresh air. If not breathing, give artificial respiration.
<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.

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

Upper respiratory tract infections (common cold, sinus infections), headache, diarrhea, nasal congestion, sore throat, and runny nose (nasopharyngitis).

**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.
<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
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surrounding environment.

**Unsuitable Extinguishing Media** CAUTION: Use of water spray when fighting fire may be inefficient.

#### Specific hazards arising from the chemical

No information available.

#### 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.

### SECTION 6. Accidental release measures

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

**For non-emergency personnel** Ensure adequate ventilation.

**Other information** No information available.

#### Environmental precautions

See Section 12 for additional information.

#### 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** Pick up and transfer to properly labeled containers.

### SECTION 7. Handling and storage

#### Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

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

**Technical measures/Storage conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Packaging material** No information available.

**Incompatible products** None known based on information supplied.

### SECTION 8. Exposure controls/personal protection

#### Control parameters

#### 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.

<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>Color</b>	White to off-white
<b>Appearance</b>	Crystalline powder, Granules	<b>Odor Threshold</b>	No information available
<b>Odor</b>	No information available		
<b>Property</b>	<b>Values</b>	<b>Remarks Method</b>	
pH	No information available		
Melting point/freezing point			
Initial boiling point and boiling range			
Flash point			
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	Practically insoluble		
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		
Viscosity	No information available		
Viscosity, dynamic	No information available		
Explosive properties	No information available		
Oxidizing properties	No information available		
<b>Other information</b>			
Softening point	No information available		
Molecular Weight	312.37 g/mol		
VOC content	No information available		
Density	No information available.		
Bulk Density VALUE	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>	Inhalation of particulates may cause mechanical irritation to upper respiratory tract.
<b>Eye contact</b>	Contact with eyes may cause mechanical irritation.
<b>Skin contact</b>	Contact with skin may cause mechanical irritation.
<b>Ingestion</b>	May be harmful if swallowed. Reproductive Toxicity.

**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>	Upper respiratory tract infections (common cold, sinus infections), headache, diarrhea, nasal congestion, sore throat, and runny nose (nasopharyngitis).
<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	Tofacitinib was not mutagenic in the bacterial reverse mutation assay. It was positive for clastogenicity in the in vitro chromosome aberration assay with human lymphocytes in the presence of metabolic enzymes, but negative in the absence of metabolic enzymes. Tofacitinib was negative in the in vivo rat micronucleus assay and in the in vitro CHO-HGPRT assay and their in vivo rat hepatocyte unscheduled DNA synthesis assay.
<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. In a 39-week toxicology study in monkeys, tofacitinib at doses of 5 mg/kg (oral) twice daily produced lymphomas. In a 24-month oral carcinogenicity study in Sprague-Dawley rats, tofacitinib caused benign Leydig cell tumors, hibernomas (malignancy of brown adipose tissue), and benign thymomas at doses greater than or equal to 30 mg/kg/day.
<b>Reproductive toxicity</b>	In a rat embryofetal developmental study, tofacitinib was teratogenic at 100 mg/kg/day. Teratogenic effects consisted of external and soft tissue malformations of anasarca and membranous ventricular septal defects, respectively, and skeletal malformations or variations (absent cervical arch; bent femur, fibula, humerus, radius, scapula, tibia, and ulna; sternoschisis; absent rib; misshapen femur; branched rib; fused rib; fused sternebra; and hemicentric thoracic centrum). No developmental toxicity was observed in rats at 30 mg/kg/day. In a rabbit embryofetal developmental study, tofacitinib was teratogenic at 30 mg/kg/day in the absence of signs of maternal toxicity. Teratogenic effects included thoracogastroschisis, omphalocele, membranous ventricular septal defects, and cranial/skeletal malformations (microstomia, microphthalmia), mid-line and tail defects. No developmental toxicity was observed in rabbits at 10 mg/kg/day.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	May cause disorder and damage to the: Lymphatic System, Blood.
<b>Target Organ Effects</b>	Lymphatic System, Blood, Reproductive system.
<b>Neurological effects</b>	No information available.

**Aspiration Hazard** No information available.

## SECTION 12. Ecological information

### Ecotoxicity

**Persistence and degradability** Not readily biodegradable.  
**Bioaccumulation** Not likely to bioaccumulate.  
**Mobility** Is not likely mobile in the environment due its low water solubility

Chemical Name	Octanol-Water Partition Coefficient
3-[(3R,4R)-4-methyl-3-[methyl(7H-pyrrolo[2,3-d]pyrimidin-4-yl)amino]piperidin-1-yl]-3-oxopropanenitrile	1.808

### 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
3-[(3R,4R)-4-methyl-3-[methyl(7H-pyrrolo[2,3-d]pyrimidin-4-yl)amino]piperidin-1-yl]-3-oxopropanenitrile	Not Listed	Not Listed	Not Listed	Not Listed

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

(Bad file name)	Class D2A - Very Toxic Material at >= 0.1%
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### 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>	No
<b>Chronic Health Hazard</b>	Yes

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<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.

**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