



SAFETY DATA SHEET

Tamoxifen (citrate)

Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Revision: 06/25/2012

1. Identification of the Substance/Mixture and of the Company/Undertaking

Product Code: 11629

Product Name: Tamoxifen (citrate)

Synonyms: 2-[4-[(1Z)-1,2-diphenyl-1-buten-1-yl]phenoxy]-N,N-dimethyl-2-hydroxy-1,2,3-propanetricarboxylate-ethanamine; ICI 46474; Istubal; Kessar; Noltam; Nolvadex; TMX; Valodex; Zemide;

Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

Company Name: Cayman Chemical Company

Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300

Alternate Emergency Contact: CHEMTREC Outside USA and Canada: +1 (703)527-3887

Information: Cayman Chemical Company +1 (734)971-3335

Web site address: www.caymanchem.com

2. Hazards Identification

GHS Classification	Placard	Key word	GHS Hazard
Acute Toxicity: Oral, Category 4	Exclamation point	Warning	Harmful if swallowed
Carcinogenicity, Category 1B	Health hazard	Danger	May cause cancer
Toxic To Reproduction, Category 1B	Health hazard	Danger	May damage fertility or the unborn child

GHS Hazard Phrases:
H302: Harmful if swallowed.
H350: May cause cancer.
H360: May damage fertility or the unborn child.

GHS Precaution Phrases:
P264: Wash hands thoroughly after handling.
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P281: Use personal protective equipment as required.

GHS Response Phrases:
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330: Rinse mouth.
P308+313: IF exposed or concerned: Get medical attention/advice.

GHS Storage and Disposal Phrases:
Please refer to Section 7 for Storage and Section 13 for Disposal information.

Route(s) of Entry:
Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

Potential Health Effects (Acute and Chronic):
California Prop. 65 reproductive hazard.
Harmful if swallowed.
Material may be irritating to the mucous membranes and upper respiratory tract.
May be harmful by inhalation or skin absorption.
May cause cancer.
May cause eye, skin, or respiratory system irritation.
May cause harm to breast-fed children.
May damage fertility or the unborn child.

Target Organs:
Eyes, Reproductive system, Liver.

Signs and Symptoms Of Exposure:
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Medical Conditions Generally Aggravated By Exposure:
No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Tamoxifen (citrate)	54965-24-1	100.0 %	259-415-2	R22-45-60-61-64	KH2387000

4. First Aid Measures

Emergency and First Aid Procedures:

In Case of Inhalation:	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
In Case of Skin Contact:	Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
In Case of Eye Contact:	Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.
In Case of Ingestion:	Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

5. Fire Fighting Measures

Suitable Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
Unsuitable Extinguishing Media:	A solid water stream may be inefficient.
Flammable Properties and Hazards:	No data available.
Hazardous Combustion Products:	No data available.
Flash Pt:	No data.
Autoignition Pt:	No data available.
Explosive Limits:	LEL: No data. UEL: No data.
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

6. Accidental Release Measures

Protective Precautions, Protective Equipment and Emergency Procedures:	Avoid raising and breathing dust, and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.
Steps To Be Taken In Case Material Is Released Or Spilled:	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

Precautions To Be Taken in Handling:	Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
Precautions To Be Taken in Storing:	Keep container tightly closed. Store in accordance with information listed on the product insert.
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Tamoxifen (citrate)	54965-24-1	No data.	No data.	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	Europe
1. Tamoxifen (citrate)	54965-24-1	No data.	No data.	No data.

Protective Equipment Summary - Hazard Label Information:	Compatible chemical-resistant gloves Eye wash station in work area Lab coat Safety glasses Safety shower in work area Vent Hood
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.
Work/Hygienic/Maintenance Practices:	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower. Wash thoroughly after handling.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical States:	<input type="checkbox"/> Gas <input type="checkbox"/> Liquid <input checked="" type="checkbox"/> Solid
Appearance and Odor:	A crystalline solid
Boiling Point:	No data.
Melting Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data.
Specific Gravity (Water = 1):	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	No data.
Solubility Notes:	~0.3 mg/ml in 1:2 EtOH:PBS (pH 7.2); ~20 mg/ml in EtOH & DMF; ~2 mg/ml DMSO;
Other Information	
Percent Volatile:	No data.
Formula:	C ₂₆ H ₂₉ NO • C ₆ H ₈ O ₇
Molecular Weight:	563.60

10. Stability and Reactivity

Stability:	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>
Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
Conditions To Avoid:	No data available.
Polymerization:	Will occur <input type="checkbox"/> Will not occur <input checked="" type="checkbox"/>
Incompatibility - Materials To Avoid:	strong oxidizing agents
Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide nitrogen oxides

11. Toxicological Information

Toxicological Information:	The toxicological effects of this product have not been thoroughly studied. Tamoxifen (citrate) - Toxicity Data: Oral LD50 (rat): 1,190 mg/kg; Oral LD50 (mouse): 3,100 mg/kg;
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Chronic Toxicological Effects:		Tamoxifen (citrate) - Investigated as a mutagen, reproductive effector, and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. Tamoxifen (citrate) RTECS Number: KH2387000			
Carcinogenicity/Other Information:		California Prop. 65 reproductive hazard. IARC: Group 1: Carcinogenic to humans (Tamoxifen citrate)			
Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Tamoxifen (citrate)	54965-24-1	n.a.	1	n.a.	n.a.
Carcinogenicity:		NTP? No IARC Monographs? Yes OSHA Regulated? No			
12. Ecological Information					
General Ecological Information:		Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.			
13. Disposal Considerations					
Waste Disposal Method:		Dispose in accordance with local, state, and federal regulations.			
14. Transport Information					
Globally Harmonized System of Classification and Labelling					
Acute Toxicity: Oral, Category 4 - Warning! Harmful if swallowed					
Carcinogenicity, Category 1B - Danger! May cause cancer					
Toxic To Reproduction, Category 1B - Danger! May damage fertility or the unborn child					
LAND TRANSPORT (US DOT)					
DOT Proper Shipping Name		Not dangerous goods.			
LAND TRANSPORT (European ADR/RID)					
ADR/RID Shipping Name		Not dangerous goods.			
AIR TRANSPORT (ICAO/IATA)					
ICAO/IATA Shipping Name		Not dangerous goods.			
Additional Transport Information:		Transport in accordance with local, state, and federal regulations.			
15. Regulatory Information					
European Community Hazard Symbol codes		T: Toxic; Carcinogenic Hazard: 2; Reproductive Hazard: 2			
European Community Risk and Safety Phrases					
R22 - Harmful if swallowed.					
R45 - May cause cancer.					
R60 - May impair fertility.					
R61 - May cause harm to the unborn child.					
R64 - May cause harm to breastfed babies.					
S22 - Do not breathe dust.					
S24/25 - Avoid contact with skin and eyes.					
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 whenever possible.)					
S53 - Avoid exposure - obtain special instructions before use.					
US EPA SARA Title III					
Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Tamoxifen (citrate)	54965-24-1	No	No	No	No
Other US EPA or State Lists					
Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Tamoxifen (citrate)	54965-24-1	No	No	No	Yes
Regulatory Information Statement:		This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.			

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary use.

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required