

## Material Safety Data Sheet

Version 3.13  
Revision Date 09/05/2013  
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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Paclitaxel

Product Number : T7402

Brand : Sigma

Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832

Fax : +1 800-325-5052

Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Skin sensitiser, Respiratory sensitiser, Irritant, Carcinogen, Teratogen, Mutagen

##### Target Organs

Cardiovascular system., Nerves., Eyes, Kidney, Liver, Bone marrow, Heart, Central nervous system, Gastrointestinal tract

##### GHS Classification

Acute toxicity, Oral (Category 5)  
Skin irritation (Category 2)  
Serious eye damage (Category 1)  
Respiratory sensitisation (Category 1)  
Skin sensitisation (Category 1)  
Germ cell mutagenicity (Category 2)  
Reproductive toxicity (Category 2)  
Specific target organ toxicity - single exposure (Category 1)  
Specific target organ toxicity - single exposure (Category 3)

##### GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H303 May be harmful if swallowed.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335 May cause respiratory irritation.

H341 Suspected of causing genetic defects.  
H361 Suspected of damaging fertility or the unborn child.  
H370 Causes damage to organs.

Precautionary statement(s)

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear protective gloves/ eye protection/ face protection.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P307 + P311 IF exposed: Call a POISON CENTER or doctor/ physician.

**HMIS Classification**

**Health hazard:** 2  
**Chronic Health Hazard:** \*  
**Flammability:** 0  
**Physical hazards:** 0

**NFPA Rating**

**Health hazard:** 2  
**Fire:** 0  
**Reactivity Hazard:** 0

**Potential Health Effects**

**Inhalation** Toxic if inhaled. Causes respiratory tract irritation.  
**Skin** Toxic if absorbed through skin. Causes skin irritation.  
**Eyes** Causes eye irritation.  
**Ingestion** Toxic if swallowed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Taxol®  
Formula : C<sub>47</sub>H<sub>51</sub>NO<sub>14</sub>  
Molecular Weight : 853.91 g/mol

Component		Concentration
<b>Paclitaxel</b>		
CAS-No.	33069-62-4	90 - 100 %
<b>Methanol</b>		
CAS-No.	67-56-1	1 - 5 %
EC-No.	200-659-6	
Index-No.	603-001-00-X	
Registration number	01-2119433307-44-XXXX	
<b>2-Propanol</b>		
CAS-No.	67-63-0	1 - 5 %
EC-No.	200-661-7	
Index-No.	603-117-00-0	
<b>Ethanol</b>		
CAS-No.	64-17-5	1 - 5 %
EC-No.	200-578-6	
Index-No.	603-002-00-5	

### 4. FIRST AID MEASURES

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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**5. FIREFIGHTING MEASURES****Conditions of flammability**

Not flammable or combustible.

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

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**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

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**7. HANDLING AND STORAGE****Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature: 2 - 8 °C

Keep in a dry place.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Basis
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Headache Eye damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Danger of cutaneous absorption			
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Headache Eye damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Danger of cutaneous absorption			
		STEL	250 ppm	USA. OSHA - TABLE Z-1 Limits for Air Contaminants -

			325 mg/m3	1910.1000
	Skin notation			
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in mg/m3 is approximate.			
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits
	Potential for dermal absorption			
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits
	Potential for dermal absorption			
2-Propanol	67-63-0	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Eye & Upper Respiratory Tract irritation Central Nervous System impairment Not classifiable as a human carcinogen			
		STEL	400 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Eye & Upper Respiratory Tract irritation Central Nervous System impairment Not classifiable as a human carcinogen			
		TWA	400 ppm 980 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		STEL	500 ppm 1,225 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	400 ppm 980 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in mg/m3 is approximate.			
		TWA	400 ppm 980 mg/m3	USA. NIOSH Recommended Exposure Limits
		ST	500 ppm 1,225 mg/m3	USA. NIOSH Recommended Exposure Limits
Ethanol	64-17-5	TWA	1,000 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Upper Respiratory Tract irritation Confirmed animal carcinogen with unknown relevance to humans			
		TWA	1,000 ppm 1,900 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in mg/m3 is approximate.			
		TWA	1,000 ppm 1,900 mg/m3	USA. NIOSH Recommended Exposure Limits

## Personal protective equipment

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber  
Minimum layer thickness: 0.11 mm  
Break through time: 480 min  
Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact  
Material: Nitrile rubber  
Minimum layer thickness: 0.11 mm  
Break through time: 480 min  
Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374  
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	powder
Colour	no data available

### Safety data

pH	3.0 - 8.0
Melting point/freezing point	Melting point/range: 213 °C (415 °F) - dec.
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Auto-ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	0.2 g/cm <sup>3</sup>
Water solubility	insoluble
Partition coefficient: n-octanol/water	log Pow: > 99
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available

Evaporation rate      no data available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

no data available

### Conditions to avoid

no data available

### Materials to avoid

no data available

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NO<sub>x</sub>)

Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD<sub>50</sub>

no data available

#### Inhalation LC<sub>50</sub>

no data available

Irritating to respiratory system.

#### Dermal LD<sub>50</sub>

no data available

#### Other information on acute toxicity

no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/eye irritation

no data available

### Respiratory or skin sensitisation

May cause allergic respiratory and skin reactions

### Germ cell mutagenicity

Laboratory experiments have shown mutagenic effects.

Genotoxicity in vitro - Hamster - Lungs

Cytogenetic analysis

Genotoxicity in vivo - mouse - Subcutaneous

Micronucleus test

### Carcinogenicity

IARC:            3 - Group 3: Not classifiable as to its carcinogenicity to humans (2-Propanol)

NTP:            No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA:           No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Reproductive toxicity

Reproductive toxicity - rat - Intravenous

Maternal Effects: Other effects. Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord).

Reproductive toxicity - rat - Intravenous

Effects on Newborn: Growth statistics (e.g., reduced weight gain). Effects on Newborn: Behavioral. Effects on Newborn: Physical.

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

#### **Teratogenicity**

Developmental Toxicity - rat - Intravenous

Specific Developmental Abnormalities: Musculoskeletal system. Effects on Newborn: Delayed effects.

#### **Specific target organ toxicity - single exposure (Globally Harmonized System)**

Inhalation - May cause respiratory irritation.

#### **Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

no data available

#### **Aspiration hazard**

no data available

#### **Potential health effects**

<b>Inhalation</b>	Toxic if inhaled. Causes respiratory tract irritation.
<b>Ingestion</b>	Toxic if swallowed.
<b>Skin</b>	Toxic if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye irritation.

#### **Signs and Symptoms of Exposure**

Alopecia., Liver injury may occur., Kidney injury may occur., Nausea, Headache, Vomiting, bone marrow depression

#### **Synergistic effects**

no data available

#### **Additional Information**

RTECS: DA8340700

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## **12. ECOLOGICAL INFORMATION**

#### **Toxicity**

no data available

#### **Persistence and degradability**

no data available

#### **Bioaccumulative potential**

no data available

#### **Mobility in soil**

no data available

#### **PBT and vPvB assessment**

no data available

#### **Other adverse effects**

no data available

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## **13. DISPOSAL CONSIDERATIONS**

#### **Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

#### **Contaminated packaging**

Dispose of as unused product.

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## **14. TRANSPORT INFORMATION**

#### **DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

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**15. REGULATORY INFORMATION****OSHA Hazards**

Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Skin sensitiser, Respiratory sensitiser, Irritant, Carcinogen, Teratogen, Mutagen

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
2-Propanol	67-63-0	1987-01-01

**SARA 311/312 Hazards**

Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
2-Propanol	67-63-0	1987-01-01
Ethanol	64-17-5	2007-03-01

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
Paclitaxel	33069-62-4	
Methanol	67-56-1	2007-07-01
2-Propanol	67-63-0	1987-01-01
Ethanol	64-17-5	2007-03-01

**New Jersey Right To Know Components**

	CAS-No.	Revision Date
Paclitaxel	33069-62-4	
Methanol	67-56-1	2007-07-01
2-Propanol	67-63-0	1987-01-01
Ethanol	64-17-5	2007-03-01

**California Prop. 65 Components**

	CAS-No.	Revision Date
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.	67-56-1	2012-03-16
Methanol		
Paclitaxel	33069-62-4	2008-06-17

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**16. OTHER INFORMATION****Further information**

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