

Material Safety Data Sheet

Phorbol 12-myristate 13-acetate

ACC# 89247

Section 1 - Chemical Product and Company Identification

MSDS Name: Phorbol 12-myristate 13-acetate

Catalog Numbers: BP685-1, BP685-10, BP685-5

Synonyms: Myristic acid, 9-ester with alpha,1b-beta,4,4a,7a-alpha,7b,8,9,9a-decahydro-4a-b ta, 7b-alpha,9-beta,9a-alpha-tetrahydroxy-3-(hydroxymethyl)-1 1,6,8-alpha-tetr amethyl-5H- cyclopropa(3,4)benz(1,2-e)azulen-5-one, 9a-acetate; Phorbol acetate, myristate; Phorbol monoacetate monomyristate; Phorbol myristate acetate; Tetradecanoyl phorbol acetate (TPA)

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
16561-29-8	Phorbol 12-myristate 13-acetate	100.0	unlisted

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white crystals.

Warning! Causes skin irritation. May cause eye irritation. May cause respiratory and digestive tract irritation. Light sensitive. May cause fetal effects based upon animal studies. The toxicological properties of this material have not been fully investigated.

Target Organs: Bone marrow.

Potential Health Effects

Eye: May cause eye irritation.

Skin: Causes skin irritation.

Ingestion: May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated. May cause blood platlet aggregation. Phorbal derivatives are purgatives if taken internally.

Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

Chronic: May cause fetal effects. Laboratory experiments have resulted in mutagenic effects. Animal studies have reported the development of tumors.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire. Use dry chemical, carbon dioxide, or halon extinguisher.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 1; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Pick up wash liquid with additional absorbent and place into a suitable disposable container. Wash area with soap and water. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation. Inactivate spilled material with 5% sodium hypochlorite.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid breathing dust, vapor, mist, or gas. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Store protected from light.

Storage: Store in a tightly closed container. Keep under a nitrogen blanket. Store in a cool, dry, well-ventilated area away from incompatible substances. Deep freeze (below -20°C). Store protected from light.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use only under a chemical fume hood.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Phorbol 12-myristate 13-acetate	none listed	none listed	none listed

OSHA Vacated PELs: Phorbol 12-myristate 13-acetate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Crystals

Appearance: white

Odor: none reported

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 72 deg C

Decomposition Temperature: Not available.

Solubility: Negligible.

Specific Gravity/Density: Not available.

Molecular Formula: C₃₆H₅₆O₈

Molecular Weight: 616.3872

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, light, dust generation, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, strong bases, acids, alkalies.

Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 16561-29-8: QH4377000

LD50/LC50:

Not available.

Carcinogenicity:

CAS# 16561-29-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Phorbol esters are very potent tumor promoters. Some of them may enhance tumor promotion of known carcinogens ten fold.

Teratogenicity: Intraperitoneal, mouse: TDLo = 30 ug/kg (female 11-13 day(s) after conception) Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus) and Fetal death.; Subcutaneous, mouse: TDLo = 640 ug/kg (lactating female 2 day(s) post-birth) Reproductive - Effects on Newborn - growth statistics (e.g.%, reduced weight gain).

Reproductive Effects: No information found.

Mutagenicity: DNA Damage: Human, Fibroblast = 1300 nmol/L.; DNA Damage: Human, Leukocyte = 25 ug/L.; Unscheduled DNA Synthesis: Human Cells - not otherwise specified = 10 ug/L.; Unscheduled DNA Synthesis: Human, Fibroblast = 100 ug/L.; DNA Inhibition: Human, Leukocyte = 500 pmol/L.; DNA Inhibition: Human, Fibroblast = 20 mg/L.

Neurotoxicity: No information found.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	CARBON DIOXIDE, SOLID USED FOR DIAGNOSTIC OR TREATMENT PURPOSE	No information available.
Hazard Class:	9	
UN Number:		
Packing Group:	III	

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 16561-29-8 is not listed on the TSCA inventory. It is for research and development use only.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 16561-29-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XI

Risk Phrases:

R 38 Irritating to skin.

Safety Phrases:

S 36/39 Wear suitable protective clothing and eye/face protection.

S 28A After contact with skin, wash immediately with plenty of water.

WGK (Water Danger/Protection)

CAS# 16561-29-8: No information available.

Canada - DSL/NDSL

None of the chemicals in this product are listed on the DSL or NDSL list. **Canada - WHMIS**

This product has a WHMIS classification of D2B.

Canadian Ingredient Disclosure List

Section 16 - Additional Information
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MSDS Creation Date: 7/15/1999

Revision #2 Date: 3/18/2003

The information above 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. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.