

Safety Data Sheet

Ascorbyl Palmitate

Product Code: ASCORPAL

Section 1: Identification

Product identifier	Ascorbyl Palmitate
Product code	ASCORPAL
Chemical name	6-O-Palmitoyl-L-ascorbic acid; L-Ascorbic acid 6-hexadecanoate
Synonyms	L-Ascorbyl 6-palmitate; Ascorbic acid 6-palmitate; Ascorbyl monopalmitate
CAS number	137-66-6
EC number	205-305-4
Chemical formula	C ₂₂ H ₃₈ O ₇
Molecular weight	414.53 g/mol
Recommended use	Laboratory chemical and research; chemical synthesis; analytical work; antioxidant and stabilizing ingredient in cosmetic and personal-care formulations; formulation research; antioxidant for oils, fats, waxes and other appropriate non-food industrial or technical formulations.
Use restrictions	Not intended or represented for food or drug/pharmaceutical applications.
Supplier / Distributor	Chemical Store Inc.
Address	1059 Main Avenue, Clifton, NJ 07011, United States
Telephone / Website / Email	+1 (973) 405-6248 ChemicalStore.com info@ChemicalStore.com
Emergency telephone	+1 (973) 420-4972 (United States)

Section 2: Hazards Identification

United States (US) - OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification	Serious eye damage / eye irritation - Category 2A.
Signal word	WARNING
Pictogram	GHS07 - Exclamation mark
Hazard statement	H319 - Causes serious eye irritation.
Other hazards	No hazards not otherwise classified are identified in the principal current U.S. supplier SDS reviewed. Product is stored as a combustible solid by a major supplier; avoid unnecessary dust generation and ignition sources.
Environmental classification note	Some aggregated international classification notifications report H412 (harmful to aquatic life with long lasting effects), while the principal current U.S. supplier SDS used here does not classify the product for environmental hazards. This SDS therefore does not assign H412 without product-specific supplier evidence.

Precautionary statements

- P264 - Wash skin thoroughly after handling.
- P280 - Wear 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.
- P337+P313 - If eye irritation persists: Get medical advice/attention.

Section 3: Composition / Information on Ingredients

Chemical Name	CAS Number	EC Number	Concentration
6-O-Palmitoyl-L-ascorbic acid / Ascorbyl Palmitate	137-66-6	205-305-4	Principal ingredient; exact assay per current Chemical Store specification/COA.

A current Sigma-Aldrich SDS identifies 6-O-palmitoylascorbic acid at 80-100% for its commercial grade and classifies it as Eye Irritation Category 2A. Chemical Store's lot-specific specification and Certificate of Analysis should control the actual assay.

Section 4: First Aid Measures

Inhalation	Move person to fresh air. If coughing, irritation, breathing discomfort, or other symptoms persist, obtain medical attention.
Skin contact	Remove contaminated clothing and rinse skin with water/shower. Wash with soap and water. Obtain medical attention if irritation develops or persists.
Eye contact	Rinse cautiously with plenty of water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists, obtain medical advice/attention.
Ingestion	Rinse mouth. Do not induce vomiting unless directed by medical personnel. Obtain medical advice if a significant quantity is swallowed or symptoms occur.
Most important symptoms/effects	Serious eye irritation is the principal classified acute hazard. Dust may also cause transient mechanical irritation.
Notes to physician	Treat symptomatically.

Section 5: Fire Fighting Measures

Suitable extinguishing media	Water spray, alcohol-resistant foam, dry chemical, or carbon dioxide as appropriate for the surrounding fire.
Specific hazards	Organic solid may burn under fire conditions. A major supplier assigns storage class 11 (combustible solids). Avoid dust dispersion and ignition sources.
Hazardous combustion products	Carbon oxides and irritating organic fumes may form during combustion or severe thermal decomposition.
Firefighter protection	Wear appropriate protective equipment and positive-pressure self-contained breathing apparatus when required by fire conditions.

Section 6: Accidental Release Measures

Personal precautions	Avoid dust formation and eye contact. Ensure adequate ventilation. Wear appropriate eye protection and other PPE for the quantity and conditions.
Environmental precautions	Avoid uncontrolled discharge to drains, surface waters, or the environment.
Cleanup methods	Carefully sweep, scoop, or vacuum with suitable filtered equipment into a closed container. Avoid generating airborne dust. Clean residual material using methods appropriate to the formulation and surface.

Section 7: Handling and Storage

Handling	Avoid contact with eyes. Avoid generating or breathing dust. Provide adequate ventilation. Wash thoroughly after handling. Keep away from unnecessary heat and ignition sources.
Storage	Keep container tightly closed in a cool, dry, well-ventilated place. Protect from contamination, excessive heat, and prolonged exposure to adverse storage conditions.
Incompatible materials	Strong oxidizing agents should be avoided unless compatibility has been established for the specific process.

Specific end uses	Laboratory and research use; chemical synthesis; analytical work; cosmetic and personal-care formulation; antioxidant/stabilizer use in appropriate non-food industrial formulations.
Use restriction	Not intended or represented for food or drug/pharmaceutical applications.

Section 8: Exposure Controls / Personal Protection

No substance-specific OSHA PEL or NIOSH REL was identified in the principal sources reviewed for ascorbyl palmitate.

Engineering controls	Use adequate general ventilation and local exhaust where dusty handling or processing can create airborne material.
Eye / face protection	Safety glasses with side shields; use chemical safety goggles or face protection where significant dust or splash exposure is possible.
Skin protection	Suitable protective gloves and work clothing appropriate to the operation.
Respiratory protection	Normally not required with adequate ventilation. Where significant airborne dust is generated, use an appropriate NIOSH-approved particulate respirator under an applicable respiratory protection program.
Hygiene measures	Wash hands and exposed skin after handling and before eating, drinking, or smoking. Handle according to good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Property	Value	Property	Value
Physical state	Solid powder	Color	White to faint/light yellow; grade-dependent
Odor	No characteristic odor established	Molecular formula	C22H38O7
Molecular weight	414.53 g/mol	Melting point/range	Approximately 115-118 °C (literature/supplier value)
Water solubility	Very low / practically insoluble; lipophilic material	Oil-phase behavior	Fat-soluble / lipophilic derivative of ascorbic acid
Flash point	Not applicable in current supplier product data	Storage class	11 - Combustible solids (major supplier classification)
pH	Not applicable to dry powder	Vapor pressure	Not established / negligible for solid
Vapor density	Not applicable	Autoignition temperature	No reliable product-specific value identified
Explosive properties	Not classified as explosive	Oxidizing properties	Not classified as oxidizing

Section 10: Stability and Reactivity

Reactivity	No dangerous reaction is expected under normal conditions of use.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Hazardous polymerization is not expected.
Conditions to avoid	Excessive heat, ignition sources, contamination, and unnecessary dust generation.
Incompatible materials	Strong oxidizing agents; verify compatibility for process-specific chemicals.
Hazardous decomposition products	Carbon oxides and irritating organic decomposition products may form during combustion or severe heating.

Section 11: Toxicological Information

Likely routes of exposure	Eye contact, inhalation of dust, skin contact, and incidental ingestion.
Serious eye damage / irritation	Classified as Eye Irritation Category 2A; causes serious eye irritation.
Acute toxicity	No acute toxicity classification is assigned in the principal current U.S. supplier SDS reviewed. Published cosmetic safety information includes dermal LD50 greater than 3 g/kg in guinea pigs.

Skin corrosion / irritation	No skin-irritation classification identified in the principal supplier SDS reviewed.
Sensitization	No respiratory or skin sensitization classification identified in the principal supplier SDS reviewed.
Carcinogenicity	No indication of carcinogenicity to humans was identified in the sources reviewed; ascorbyl palmitate is not listed by IARC in the PubChem summary reviewed.
Cosmetic safety context	Cosmetic Ingredient Review information summarized by PubChem reports ascorbyl palmitate as safe in present practices of use and concentration. This supports inclusion of cosmetic and personal-care formulation among appropriate uses, but finished-product safety remains formulation- and use-specific.
Reproductive toxicity / STOT	No classification identified in the principal current U.S. supplier SDS reviewed.
Aspiration hazard	Not applicable to the supplied solid form.

Section 12: Ecological Information

Ecotoxicity	The principal current U.S. supplier SDS used for classification does not assign an environmental hazard classification. Aggregated international notifications are inconsistent and some report chronic aquatic hazard H412.
Persistence / degradability	No adequate product-specific data identified for this SDS.
Bioaccumulative potential	No adequate product-specific data identified for this SDS; the substance is lipophilic.
Mobility in soil	Expected to have relatively low mobility in water because of low water solubility.
Other adverse effects	Avoid uncontrolled release to the environment.

Section 13: Disposal Considerations

Product waste	Dispose of unused product and contaminated cleanup material in accordance with applicable federal, state, and local regulations. Waste classification depends on contamination and process use.
Packaging	Empty containers may retain residue. Clean or dispose of packaging in accordance with applicable requirements.

Section 14: Transport Information

Mode	Status
U.S. DOT	Not identified as regulated dangerous goods in the principal supplier information reviewed.
TDG	Not identified as regulated dangerous goods in the principal supplier information reviewed.
IMDG/IMO	Not identified as regulated dangerous goods in the principal supplier information reviewed.
IATA/ICAO	Not identified as regulated dangerous goods in the principal supplier information reviewed.

Transport classification should be reconfirmed if formulation, concentration, packaging, or regulatory status changes.

Section 15: Regulatory Information

OSHA Hazard Communication	Eye Irritation Category 2A; H319, based on current U.S. supplier SDS information reviewed.
TSCA	A current Sigma-Aldrich research product is supplied under a TSCA R&D exemption. That supplier-specific restriction must not be generalized to Chemical Store's commercial grade. Verify TSCA status of the actual source material before commercial distribution.
EC number	205-305-4.

Cosmetic / personal-care context	Ascorbyl palmitate is recognized in cosmetic ingredient databases as an antioxidant and Cosmetic Ingredient Review information reports it safe in present practices of use and concentration. Finished-product compliance and safety remain the formulator's responsibility.
Use restriction	Chemical Store's ASCORPAL product is not intended or represented for food or drug/pharmaceutical applications.
State / local requirements	Users must determine all state, local, workplace, cosmetic-product, customer-specific, and other requirements applicable to their formulation and use.

Section 16: Other Information

Revision date	2026-10-04
Initial preparation date	2026-10-04
SDS version	1.0
Supersedes	No previous Chemical Store SDS for product code ASCORPAL

Version	Date	Description
1.0	2026-10-04	Initial Chemical Store SDS for Ascorbyl Palmitate, product code ASCORPAL, excluding food and drug/pharmaceutical use.

Full text of hazard and precautionary statements

- H319 - Causes serious eye irritation.
- P264 - Wash skin thoroughly after handling.
- P280 - Wear 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.
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Key literature and data sources

- Sigma-Aldrich Safety Data Sheet, Ascorbic acid 6-palmitate / Ascorbyl Palmitate, CAS 137-66-6, current U.S. version reviewed.
- Sigma-Aldrich product information, Ascorbic acid 6-palmitate, CAS 137-66-6, including identity, physical form, melting point and OSHA hazard classification.
- PubChem, Ascorbyl Palmitate, CAS 137-66-6, including Cosmetic Ingredient Review summaries and aggregated GHS information.
- Cosmetic Ingredient Review information as summarized by PubChem: Ascorbyl Palmitate is used as a cosmetic antioxidant and reported safe in present practices of use and concentration.
- Chemical Store product information supplied for this SDS: Ascorbyl Palmitate, product code ASCORPAL; food and drug/pharmaceutical uses excluded.

Hazard classification method

Classification is based primarily on the current U.S. Sigma-Aldrich OSHA SDS for ascorbyl palmitate, which classifies the substance as Eye Irritation Category 2A (H319). Aggregated international notifications show inconsistent environmental classifications, so additional hazard statements were not assigned without product-specific supplier support.

Training advice

- Chemical hazard communication and SDS use.
- Eye protection and safe powder handling.
- Good ventilation and dust-control practices.
- Safe formulation and laboratory handling.
- Spill cleanup, storage, and waste handling.

Disclaimer

The information provided in this Safety Data Sheet is believed to be accurate and represents the best information currently available from the sources identified above. No warranty, express or implied, is made regarding completeness or suitability for a particular purpose. The user is responsible for confirming the actual commercial grade, lot specification, intended use, workplace conditions, finished-product formulation, and all applicable regulatory requirements.

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