

## Vitamin A (retinyl palmitate)

Safety Data Sheet according to Federal Register / Vol. 77, No. 58 /  
March 26, 2012 / Rules and Regulation


Revision Date: 18-Aug-2022  
Supersedes: 12-Jul-2017

### 1 PRODUCT & COMPANY IDENTIFICATION

<b>Product Name:</b>	Vitamin A (retinyl palmitate)	<b>Distributor:</b>	MakingCosmetics.com Inc.
<b>Synonyms:</b>	Retinol, hexadecanoate	<b>Address:</b>	10800 231 <sup>st</sup> Way NE Redmond, WA 98053 (USA)
<b>INCI Name:</b>	retinyl palmitate, tocopherol	<b>Phone / Fax:</b>	425-292-9502 / 425-292-9601
<b>CAS Number:</b>	79-81-2, 10191-41-0	<b>Web:</b>	www.makingcosmetics.com
<b>Formula:</b>	C <sub>36</sub> H <sub>60</sub> O <sub>2</sub>	<b>Emergency Telephone Number:</b> 1-800-424-9300 (Chemtrec)	
<b>Product Form:</b>	Liquid		
<b>Product Use:</b>	Cosmetic use		

### 2 HAZARDS IDENTIFICATION

**GHS Classification:** Reproductive toxicity: Category 1B  
**GHS Signal Word:** DANGER

**GHS Hazard Pictograms:** 

**GHS Hazard Statements:** H360: May damage fertility or the unborn child.  
**GHS Precautionary Statements:** P201: Obtain special instructions before use.  
P202: Do not handle until all safety precautions have been read and understood.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P308 + P313: IF exposed or concerned: Get medical advice/attention.  
P405: Store locked up.  
P501: Dispose of contents/container to an approved waste disposal plant.

**Potential Health Hazards:** Eyes: Not expected to be irritant.  
Inhalation: Not expected to be irritant.  
Skin: May cause mild skin irritation.  
Ingestion: May cause irritation.

**NFPA Ratings (704):**

Health	1*	Slight
Flammability	1	Slight
Reactivity	0	Minimal
Specific Hazard	N/A	

\*Chronic hazard

### 3 COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS No.</u>	<u>Weight %</u>	<u>Molecular Weight</u>
Retinyl palmitate	79-81-2	90-100%	Not available
Tocopherol	10191-41-0	1-5%	Not available

### 4 FIRST AID MEASURES

**Eyes:** Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

**Inhalation:** Move to fresh air. Consult a physician after significant exposure.

**Skin:** Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. If symptoms persist, consult a specialist.

**Ingestion:** Clean mouth with water and drink afterwards plenty of water. Do not give milk or alcoholic beverages. Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Obtain medical attention.

**Most Important Symptoms &** Headache, irritability, tiredness, drowsiness, nausea, vomiting, signs of increased intracranial pressure, generalized desquamation of the skin (after ca. 24 hours)

Effects, Both  
Acute &  
Delayed:

## 5 FIRE-FIGHTING MEASURES

**Suitable (and unsuitable) extinguishing media:** May be combustible at high temperature. Use appropriate media (dry chemical, alcohol-resistant foam) for adjacent fire. Do not use high volume water jet.

**Special protective equipment & precautions for firefighters:** Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.

**Flash Points:** Ca. 381 °F (194 °C)

**Specific hazards arising from the chemical:** Closed containers may build up pressure when exposed to heat and should be cooled with water spray. See also Stability and Reactivity section.

## 6 ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment & emergency procedures:** Evacuate personnel to safe areas. Ensure adequate ventilation. When the spilled material is cleaned up with an absorbent material, attention should be paid to the possibility of exothermic autooxidation (self-ignition) in the presence of air, even at room temperature: store in the absence of air (e.g., in water) and send for incineration (or dispose of in accordance with local regulations). Do not try to clean up the leak without proper protective equipment. See section 8 for recommendations on the use of personal protective equipment.

**Environmental precautions:** Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains, inform respective authorities.

**Methods and material for containment and cleaning up:** Soak up with inert absorbent material (e.g., sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

## 7 HANDLING & STORAGE

**Precautions for safe handling:** Take necessary action to avoid static electricity discharge. Product with burn under fire conditions. Handle substance within a predominantly closed system provided with extract ventilation. Avoid exposure - obtain special instructions prior to use. Dispose of rinse water in accordance with local and national regulations. Handle under inert gas. Smoking, eating, and drinking should be prohibited in the application area. See section 8 for recommendations on the use of personal protective equipment.

**Conditions for safe storage, incl. any incompatibilities:** To maintain product quality, do not store in heat or direct sunlight and keep at a temperature below 15 °C. Keep under inert gas. Keep container tightly closed and dry. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from heat and incompatible materials (see section 10 for incompatibilities).

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Component</u>	<u>Exposure Limits</u>	<u>Basis</u>	<u>Entity</u>
Retinyl Palmitate	0.37 mg/m <sup>3</sup>	DSM Internal Limit (est. for men)	TWA
	0.09 mg/m <sup>3</sup>	DSM Internal Limit (est. for women)	TWA

TWA: Time Weighted Average over 8 hours of work.  
TLV: Threshold Limit Value over 8 hours of work.  
REL: Recommended Exposure Limit  
PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.  
IDLH: Immediately Dangerous to Life or Health  
WEEL: Workplace Environmental Exposure Levels  
CEIL: Ceiling

**Personal Protection:**  
**Eyes:** Safety glasses with side shields should be worn.

**Inhalation:** In the case of vapor formation, use a respirator with an approved filter.

**Body:** Glove material: for example, nitrile rubber. Consider the hazard characteristics of this product and any special workplace conditions when selecting the appropriate type of protective glove. Choose body protection according to the amount and concentration of the dangerous substance in the workplace.

**Other:** When using do not eat, drink, or smoke. Avoid contact with skin, eyes, and clothing. Use good personal hygiene practices. Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Yellow-brownish oily liquid	<b>Vapor Pressure @ 25 °C:</b>	<0.001 hPa (calculated)
<b>Odor:</b>	Characteristic	<b>Vapor Density:</b>	Not determined
<b>Odor Threshold:</b>	No data available	<b>Evaporation Rate:</b>	Not determined
<b>Color:</b>	Yellow-brownish	<b>Flammability:</b>	The substance does not emit flammable gases in contact with water
<b>Molecular Weight:</b>	No data available	<b>Upper/lower Explosive Limit:</b>	Not determined
<b>pH Direct @ 25 °C:</b>	No data available	<b>Flash Point:</b>	Ca. 381 °F (194 °C)
<b>Boiling Point:</b>	No data available	<b>Specific Gravity:</b>	No data available
<b>Melting Point:</b>	Ca. 26 °C	<b>Solubility in Water:</b>	<0.0001 mg/L (insoluble)
<b>Density @ 20 °C:</b>	0.92 g/cm <sup>3</sup>	<b>Auto-Ignition Temperature:</b>	>482 °F (>250 °C)
<b>Partition Coefficient: n-octanol/water @ 25 °C:</b>	Log Pow 15.5 (calculated)	<b>Decomposition Temperature:</b>	No data available
<b>Viscosity:</b>	Not determined	<b>Explosive Properties:</b>	Not explosive
<b>Oxidizing Properties:</b>	Not oxidizing	<b>Freezing Point:</b>	No data available
<b>Solubility in Other Solvents:</b>	Ethanol: slightly soluble Ether: soluble Peanut oil: soluble	<b>Molecular Weight:</b>	524.87 g/mol

## 10 STABILITY AND REACTIVITY

**Reactivity:** No hazard to be specially mentioned.

**Chemical Stability:** Stable under recommended storage conditions.

**Hazardous Polymerization:** In case of extensive air contact (e.g., soaked rags, moistened clothes) an exothermic autooxidation (self-ignition) is possible.

**Conditions to Avoid:** Exposure to air. Heat. Exposure to light. Exposure to moisture.

**Incompatible Materials:** Oxidizing agents. Strong acids and strong bases. Copper. Copper alloys. Iron. Iron salts.

**Hazardous Decomposition Products:** No decomposition if used as directed.

## 11 TOXICOLOGICAL INFORMATION

**Acute Toxicity:** No data available

**Skin:** Mild skin irritation (OECD Test Guideline 404)  
No phototoxic skin reaction.

**Eyes:** No eye irritation (OECD Test Guideline 405)

**Respiratory:** No data available

**Ingestion:** LD50: >2500 mg/kg  
LD50: 6060 mg/kg

**Carcinogenicity:** Not classified as carcinogen by IARC, OSHA, or NTP.

**Teratogenicity:** Embryotoxic  
Teratogenic

**Germ Cell Mutagenicity:** Not mutagenic (Ames Test)  
Not genotoxic (In vivo micronucleus test)

**Embryotoxicity:** No data available

**Specific Target Organ Toxicity:** The substance or mixture is not classified as a specific target organ toxicant, single exposure.

**Reproductive Toxicity:** No data available

**Respiratory/Skin Sensitization:** No data available

**Corrosivity:** No data available

<b>Sensitization:</b>	Did not cause sensitization (Maximization Test, OECD Test Guideline 406) (Local Lymph Node Assay (LLNA), OECD Test Guideline 429) No photoallergenic skin reaction.
<b>Irritation:</b>	No data available
<b>Repeated Dose Toxicity:</b>	NOAEL: 1.43-3.32 mg/kg bw/d Test substance: retinyl acetate Sub-chronic toxicity study (90 day)
<b>Aspiration Toxicity:</b>	No aspiration toxicity known.
<b>Experience with Human Exposure:</b>	RDA (Recommended Daily Allowance) 0.8 mg pure vitamin A (retinol) per day est. for men. RDA (Recommended Daily Allowance) ca. 0.7 mg pure vitamin A (retinol) per day est. for women.

## 12 ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	
<b>Aquatic Vertebrate:</b>	LC50: >10,000 mg/L ( <i>Leuciscus idus</i> ) (96h) Test substance: retinyl propionate (nominal concentration) (DIN 38412)
<b>Aquatic Invertebrate:</b>	ErC50: 153 mg/L ( <i>Desmodesmus subspicatus</i> ) (72h) (nominal concentration) (DIN 38412) ErC10: 4.4 mg/L (72h) (nominal concentration)
<b>Terrestrial:</b>	EC20: >1000 mg/L (activated sludge) (72h) (nominal concentration) (OECD Test Guideline 209)
<b>Persistence and Degradability:</b>	Not readily biodegradable. 40-50% (28d) (OECD Test Guideline 301F) Photodegradation: Decomposes rapidly in contact with light (55min)
<b>Bioaccumulative Potential:</b>	Bioconcentration factor (BCF): 3.16 (calculated value). Accumulation in aquatic organisms is unlikely. Log Pow: 15.5 (25°C; calculated)
<b>Mobility in Soil:</b>	Distribution among environmental compartments: Adsorption, Soil. Log Koc 9.0 (calculated value)
<b>PBT and vPvB Assessment:</b>	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
<b>Other Adverse Effects:</b>	40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances. This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the US Clean Air Act Section 602 (40 CFR 82, Subpt. A, App A+ B).
<b>Additional Ecological Information:</b>	May cause long-term adverse effects in the aquatic environment.

## 13 DISPOSAL CONSIDERATIONS

<b>Waste Residues:</b>	User must determine if any wastes generated exhibit hazardous characteristics as per 40 CFR Part 261 or other national/local legislation. Organic materials (e.g., rags, paper, wood) which are soaked with this product can heat up and catch fire in the presence of air, even at room temperature: store in the absence of air (e.g., in water) and send it for incineration (or dispose of in accordance with local regulations). Discharge into the environment must be avoided. Do not contaminate ponds, waterways, or ditches with chemical or used container. Do not dispose of waste into sewer. Offer surplus and non-recyclable solutions to a licensed disposal company.
<b>Product Containers:</b>	Dispose of as unused product. Do not reuse empty containers. Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary, before disposing of waste product container.

The information in section 13 is for the product as shipped. Use and/or alterations to the product may change the characteristics of the material and alter the waste classification and proper disposal methods

## 14 TRANSPORT INFORMATION

<b>DOT (Dept. of Transportation, USA):</b>	No data available
<b>TDG (Transportation of Dangerous Goods, Canada):</b>	Not regulated as dangerous goods
<b>IMDG (International Maritime Dangerous Goods):</b>	Not regulated as dangerous goods
<b>IATA (International Air Transport Association):</b>	Not regulated as dangerous goods

<b>ICAO (International Civil Aviation Organization):</b>	No data available
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:</b>	Not applicable for product as supplied
<b>49 CFR:</b>	Not regulated as dangerous goods

## 15 REGULATORY INFORMATION

<b>TSCA Inventory Status:</b>	No substances are subject to a Significant New Use Rule. No substances are subject to TSCA 12(b) export notification requirements.
<b>DSCL (EEC):</b>	No data available
<b>WHMIS (Canada):</b>	No data available
<b>EU EINECS/ELINCS/NLP:</b>	No data available
<b>China IECSC:</b>	No data available
<b>China IECIC (06.30.2014):</b>	No data available
<b>Australia AICS:</b>	No data available
<b>Japanese MITI:</b>	No data available
<b>Philippines PICCS:</b>	No data available
<b>Korea KECL:</b>	No data available
<b>CERCLA Reportable Quantity:</b>	This material does not contain any components with a CERCLA RQ.
<b>SARA 304 EHS Reportable Quantity:</b>	This material does not contain any components with a Section 304 Extremely Hazardous Substance RQ.
<b>SARA 311/313 Hazards:</b>	Chronic health hazard
<b>SARA 302:</b>	This material does not contain any components with a Section 302 EHS TPQ.
<b>SARA 313:</b>	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
<b>Clean Air Act:</b>	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the US Clean Air Act Section 602 (40 CFR Subpt. A, App. A+B). This product does not contain any hazardous air pollutants (HAP), as defined by the US Clean Air Act Section 112 (40 CFR 61). This product does not contain any chemicals listed under the US Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F). This product does not contain any chemicals listed under the US Clean Air Act Section 111 SOCM I Intermediate or Final VO's (40 CFR 60.489). This product does not contain any Hazardous Substances listed under the US Clean Water Act, Section 311, Table 116.4A.
<b>Clean Water Act:</b>	This product does not contain any Hazardous Substances listed under the US Clean Water Act, Section 311, Table 117.3. This product does not contain any toxic pollutants listed under the US Clean Water Act Section 307.
<b>Massachusetts RTK:</b>	No components are subject to the Massachusetts Right to Know Act.
<b>Pennsylvania RTK:</b>	Retinyl Palmitate (CAS 79-81-2)

## 16 OTHER INFORMATION

<b>Revision Date:</b>	18-Aug-2022
<b>Compliance:</b>	This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200
<b>Disclaimer:</b>	This 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 other process. Such information is to be the best of the company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee of any kind, express or implied, is made as to its accuracy, reliability or completeness and we assume no responsibility for any loss, damage or expense, direct or consequential, arising out of use. It is the user's responsibility to satisfy himself as to the suitability & completeness of such information for his own particular use.