

Vitamin A (retinyl palmitate)


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

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1 PRODUCT & COMPANY IDENTIFICATION

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

2 HAZARDS IDENTIFICATION

Classification:	Reproductive toxicity: Category 1B												
Signal Word	DANGER!												
Hazard Pictograms:													
Hazard Statements:	H360: May damage fertility or the unborn child.												
Precautionary Statements:	(Prevention) 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. (Response) P308 + P313: IF exposed or concerned: Get medical advice/attention. (Storage) P405: Store locked up. (Disposal) P501: Dispose of contents/ container to an approved waste disposal plant.												
Other Hazards:	In case of extensive air contact (e.g. soaked rags, moistened clothes) an exothermic autooxidation (self-ignition) is possible. Women of childbearing age must avoid any overexposure.												
Potential Health Hazards:	Eyes: May be an irritant. Inhalation: May be an irritant. Skin: May be an irritant. Ingestion: May cause nausea, vomiting, and diarrhea.												
NFPA Ratings (704):	<table border="0"> <tr> <td>Health</td> <td>1</td> <td>Slight</td> </tr> <tr> <td>Flammability</td> <td>1</td> <td>Slight</td> </tr> <tr> <td>Reactivity</td> <td>0</td> <td>Minimal</td> </tr> <tr> <td>Specific Hazard</td> <td>N/A</td> <td></td> </tr> </table>	Health	1	Slight	Flammability	1	Slight	Reactivity	0	Minimal	Specific Hazard	N/A	
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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, call a physician.
Ingestion:	Do Not Induce Vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Do not give milk or alcoholic beverages. If symptoms persist, call a physician. Obtain medical attention.
Acute/Delayed Symptoms:	Headache, Irritability, Tiredness, Drowsiness, Nausea, Vomiting. Signs of increased intracranial pressure. Generalized desquamation of the skin (after ca. 24 hours) May damage fertility or the unborn child.
General Notes:	Treat symptomatically. Move out of dangerous area. Show this safety data sheet to the doctor in attendance. After any accidental exposure women should seek medical advice from a physician.

5 FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:	May be combustible at high temperatures. Use appropriate media (Alcohol-resistant foam, Dry chemical) for surrounding environment and adjacent fire. Do not use high volume water jet
Special protective equipment & precautions for firefighters:	Wear self-contained breathing apparatus and full protective clothing, including eye protection and boots. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Flash Points:	ca. 381 °F (194 °C) (closed cup)
Specific hazards arising from the chemical:	None known. See also Stability and reactivity section.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment & emergency procedures:	Evacuate personnel to safe areas. Use personal protective equipment. Ensure adequate ventilation. When the spilled material is cleaned up with an absorbent material, attention should be paid to the possibility of exo-thermic 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. Dispose of absorbed material in accordance with the regulations.

7 HANDLING & STORAGE

Precautions for safe handling:	Take necessary action to avoid static electricity discharge. Product will burn under fire conditions. Keep container tightly closed and dry. Handle substance within a predominantly closed system provided with extract ventilation. Avoid exposure - obtain special instructions before use. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations. Smoking, eating and drinking should be prohibited in the application area. Use good personal hygiene practice. 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. Keep under inert gas. Keep container tightly closed and dry. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store away from incompatible materials (see section 10 for incompatibilities).

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Component</u>	<u>Exposure Limits</u>	<u>Value Type</u>	<u>Basis</u>
Retinyl palmitate	0.247 mg/m ³	TWA	Internal Limit
Tocopherol	7.3 mg/m ³	TWA	Internal Limit

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:** Wear safety glasses with side-shields.
- Inhalation:** In the case of vapor formation use a respirator with an approved filter.
- Body:** Wear nitrile rubber gloves. Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- 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

Appearance:	Oily liquid (May crystallize, even at room temperature)	Vapor Pressure:	< 0.001 hPa (25 °C; calculated (citation from literature))
Odor:	Characteristic	Vapor Density:	No data available
Odor Threshold:	No data available	Evaporation Rate:	Not determined
Color:	Yellow to brownish	Flammability:	Doesn't emit flammable gases in contact with water
Molecular Weight:	524.87 g/mol	Upper/lower Explosive Limit:	Not determined
pH:	Substance/mixture is non-soluble (in water)	Flash Point:	ca. 381 °F (194 °C) (closed cup)
Boiling Point:	No data available	Specific Gravity:	No data available
Melting Point:	ca. 78°F (26 °C)	Water Solubility at 25 °C:	Insoluble (< 0.0001 mg/l)
Relative Density:	Not determined	Other Solubility:	Ethanol: Slightly soluble Ether: Soluble Peanut oil: Soluble
Density at 20 °C:	0.92 g/cm ³	Auto-Ignition Temperature:	> 482 °F (> 250 °C)
Partition Coefficient: n-octanol/water at (25 °C):	log Pow 15.5 calculated (citation from literature))	Decomposition Temperature:	No data available
Viscosity:	Not determined	Explosive Properties:	Not explosive
Oxidizing Properties:	Not oxidizing	Metal Corrosion:	No data available

10 STABILITY AND REACTIVITY

Reactivity:	No hazards to be specially mentioned.
Chemical Stability:	Stable under recommended storage conditions.
Hazardous Polymerization:	No data available.
Conditions to Avoid:	Exposure to air, heat, light, moisture.
Incompatible Materials:	Oxidizing agents, strong acids, strong bases, copper, copper alloys, iron, iron salts.
Hazardous Decomposition Products:	Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
Possible Hazardous Reactions:	In case of extensive air contact (e.g. soaked rags, moistened clothes) an exothermic autooxidation (self-ignition) is possible.

11 TOXICOLOGICAL INFORMATION

Acute Toxicity:	General Information; Retinyl palmitate: RDA (Recommended Daily Allowance) 0.8 mg pure vitamin A (retinol) per day established for men. RDA (Recommended Daily Allowance) ca. 0.7 mg pure vitamin A (retinol) per day established for women. Remarks: Danger of cumulative effects.
Skin:	(Rabbit) Mild skin irritation (OECD Test Guideline 404). (Guinea pig) no phototoxic skin reaction.
Eyes:	(Rabbit) No eye irritation (OECD Test Guideline 405).
Inhalation:	No data available.
Ingestion:	(Rat) LD50: > 2,500 mg/kg. (Mouse) LD50: 6,060 mg/kg. (Human) Acute overdose produces the following symptoms: Headache, Irritability, Tiredness, Drowsiness, Nausea, Vomiting, Signs of increased intracranial pressure, Generalized desquamation of the skin (after ca. 24 hours).
Carcinogenicity:	No indication for carcinogenicity known.
IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA:	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of

NTP:	regulated carcinogens. 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.
Teratogenicity:	embryotoxic Teratogenic (several species).
Germ Cell Mutagenicity:	Not mutagenic (Ames test). (Mouse) Not genotoxic (In vivo micronucleus test).
Embryotoxicity:	No data available.
Specific Target Organ Toxicity:	The substance or mixture is not classified as specific target organ toxicant, single exposure. (Oral, Rat) Repeated Exposure: NOAEL: 1.43 - 3.32 mg/kg bw/d, Test substance: retinyl acetate Sub-chronic toxicity study (90-day).
Reproductive Toxicity:	No data available.
Sensitization:	Did not cause sensitization on laboratory animals. (Guinea pig, Maximization Test, OECD Test Guideline 406) Test substance: active ingredient Did not cause sensitization. (Mouse, Local Lymph Node Assay (LLNA), OECD Test Guideline 429) Tested with a similar product containing 1.5% dl-alpha tocopherol. (Guinea pig) no photoallergenic skin reaction.
Aspiration Toxicity:	No aspiration toxicity classification.

12 ECOLOGICAL INFORMATION

Ecotoxicity:	No data available.
Aquatic Vertebrate:	Test substance: Retinyl propionate (Golden orfe) LC50: > 10,000 mg/l, 96 hours (nominal concentration) (DIN 38412).
Aquatic Invertebrate:	No data available.
Aquatic Algae:	(Desmodesmus subspicatus, Green Algae) ErC50: 153 mg/l (nominal concentration), 72 hours, (DIN 38412). ErC10: 4.4 mg/l (nominal concentration), 72 hours.
Activated Sludge:	(Activated sludge) EC20: > 1,000 mg/l (nominal concentration), 0.5 hours (OECD Test Guideline 209).
Persistence and Degradability:	Not readily biodegradable. 40 - 50% (28 days) (OECD Test Guideline 301F). Photodegradation: Photodegradation: Decomposes rapidly in contact with light. Half-life (direct photolysis): 55 min (calculated value).
Bioaccumulative Potential:	Bioconcentration factor (BCF): 3.16; Method: calculated value; Accumulation in aquatic organisms is unlikely.
Mobility in Soil:	Adsorption, Soil. log Koc 9.0 (calculated value). Adsorbs on soil.
PBT and vPvB Assessment:	No data available.
Other Adverse Effects:	Ozone-Depletion Potential: Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances. Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). Additional ecological information: May cause long-term adverse effects in the aquatic environment.

13 DISPOSAL CONSIDERATIONS

Waste Residues:	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. 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.
Product Containers:	Dispose of as unused product. Do not re-use 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

DOT (Dept. of Transportation, USA):	Not regulated as a dangerous good.
TDG (Transportation of Dangerous Goods, Canada):	No data available.
IMDG (International Maritime Dangerous Goods):	Not regulated as a dangerous good.
IATA (International Air Transport Association):	Not regulated as a dangerous good.
ICAO (International Civil Aviation Organization):	No data available.
Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Not applicable for product as supplied.
49 CFR:	Not regulated as a dangerous good.
Special Precautions for User:	Remarks: Not classified as dangerous in the meaning of transport regulations.

15 REGULATORY INFORMATION

TSCA Inventory Status:	All substances listed as active on the TSCA inventory. No substances are subject to a Significant New Use Rule. No substances are subject to TSCA 12(b) export notification requirements.
CERCLA RQ:	This material does not contain any components with a CERCLA Reportable Quantity.
SARA 304:	This material does not contain any components with a section 304 Extremely Hazardous Substances Reportable Quantity.
SARA 302:	This material does not contain any components with a section 302 Extremely Hazardous Substances Threshold Planning Quantity.
SARA 311/312 Hazards:	Reproductive toxicity.
SARA 313:	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.
Clean Air Act:	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61). This product does not contain any chemicals listed under the U.S. 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 U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).
Clean Water Act:	This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A. This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3. This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307. This product does not contain any priority pollutants related to the U.S. Clean Water Act
MA Right to Know:	No components are subject to the Massachusetts Right to Know Act.
PA Right to Know:	Retinyl palmitate (CAS: 79-81-2)
ME Chemicals of High Concern:	Product does not contain any listed chemicals.
VT Chemicals of High Concern:	Product does not contain any listed chemicals.
WA Chemicals of High Concern:	Product does not contain any listed chemicals.
Canada (DSL):	All components of this product are on the Canadian DSL.
China (IECSC):	On the inventory, or in compliance with the inventory.
Australia (AIIIC):	On the inventory, or in compliance with the inventory.
Japan (ENCS):	On the inventory, or in compliance with the inventory.
Japan (ISHL):	On the inventory, or in compliance with the inventory.
Philippines (PICCS):	On the inventory, or in compliance with the inventory.
Korea (KECI):	Not in compliance with the inventory.
Taiwan (TSCI):	On the inventory, or in compliance with the inventory.
Thailand (TECI):	Not in compliance with the inventory.
New Zealand (NZIoC):	On the inventory, or in compliance with the inventory.

16 OTHER INFORMATION

Additional CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act

Abbreviations:	DIN: Standard of the German Institute for Standardization. ECx: Concentration associated with x% response. ELx: Loading rate associated with x% response. ErCx: Concentration associated with x% growth rate response. LC50: Lethal Concentration to 50 % of a test population. LD50: Lethal Dose to 50% of a test population (Median Lethal Dose). NOAEL: No overserved (Adverse) effect level. OECD: Organization for Economic Co-operation and Development.
Revision Date:	05-Feb-2025
Compliance:	This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200
Disclaimer:	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.