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Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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1-Palmitoyl-rac-glycerol

sc-206201

Material Safety Data Sheet



The Power is Question

Hazard Alert Code Key: **EXTREME** **HIGH** **MODERATE** **LOW**

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

1-Palmitoyl-rac-glycerol

STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

NFPA



SUPPLIER

Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800

EMERGENCY:

ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255
(1-800-CHEMCALL) or call +613 9573 3112

SYNONYMS

C19-H38-O4, HOCH₂CH(OH)CH₂OCO(CH₂)₁₄CH₃, "glyceryl palmitate", "glyceryl 3-palmitate", "2, 3-dihydroxypropyl palmitate", "for DL-form", "rac-glycerol 1-palmitate", "rac 1-palmitoylglycerol", "for L-form", 3-palmitoyl-sn-glycerol, "(R)-glycerol 1-palmitate", "1-monopalmitoyl-rac-glycerol (C16.)", "monosialoganglioside GM1"

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability:	1	
Toxicity:	0	
Body Contact:	0	
Reactivity:	1	
Chronic:	0	

Min/Nil=0
Low=1
Moderate=2
High=3
Extreme=4



CANADIAN WHMIS SYMBOLS

None

EMERGENCY OVERVIEW

RISK

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

- The material has NOT been classified as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
- Use in food, and as food additive indicates high degree of tolerance.

EYE

- Although the material is not thought to be an irritant, direct contact with the eye may cause transient discomfort characterized by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.

SKIN

- The material is not thought to produce adverse health effects or skin irritation following contact (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

INHALED

- The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
- Inhalation hazard is increased at higher temperatures.
- Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.
- Inhalation of oil droplets/ aerosols may cause discomfort and may produce chemical pneumonitis.
- Fine mists generated from plant/ vegetable (or more rarely from animal) oils may be hazardous. Extreme heating for prolonged periods, at high temperatures, may generate breakdown products which include acrolein and acrolein-like substances.

CHRONIC HEALTH EFFECTS

- Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified using animal models); nevertheless exposure by all routes should be minimized as a matter of course. Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Glycerol esters occur throughout nature and make up part of the normal diet.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
glyceryl monopalmitate	542-44-9	>98

Section 4 - FIRST AID MEASURES

SWALLOWED

· Immediately give a glass of water. · First aid is not generally required. If in doubt, contact a Poisons Information Center or a doctor.

EYE

- If this product comes in contact with eyes: · Wash out immediately with water. · If irritation continues, seek medical attention.

SKIN

- If skin or hair contact occurs: · Flush skin and hair with running water (and soap if available). · Seek medical attention in event of irritation.

INHALED

· If fumes or combustion products are inhaled remove from contaminated area. · Other measures are usually unnecessary.

NOTES TO PHYSICIAN

- Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

Vapour Pressure (mmHG):	Negligible
Upper Explosive Limit (%):	Not available

Specific Gravity (water=1):	Not available
Lower Explosive Limit (%):	Not available

EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.

FIRE FIGHTING

- Alert Emergency Responders and tell them location and nature of hazard.
 - Wear breathing apparatus plus protective gloves.
- When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 100 metres in all directions.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Combustible solid which burns but propagates flame with difficulty.
 - Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited.
- Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), acrolein, other pyrolysis products typical of burning organic material.

CARE: Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns. Foaming may cause overflow of containers and may result in possible fire.

FIRE INCOMPATIBILITY

- Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

PERSONAL PROTECTION

- Glasses:
Chemical goggles.
- Gloves:
- Respirator:
Particulate

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Environmental hazard - contain spillage.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.

MAJOR SPILLS

- Environmental hazard - contain spillage.

CARE: Absorbent material wet with occluded oil must be wet with water as they may auto-oxidize, become self heating and ignite. Some oils slowly oxidize when spread in a film and oil on cloths, mops, absorbents may auto-oxidize and generate heat, smoulder, ignite and burn. In the workplace oily rags should be collected and immersed in water.

- Clear area of personnel and move upwind.
- Alert Emergency Responders and tell them location and nature of hazard.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Rags wet / soaked with unsaturated hydrocarbons / drying oils may auto-oxidise; generate heat and, in-time, smoulder and ignite. This is especially the case where oil-soaked materials are folded, bunched, compressed, or piled together - this allows the heat to accumulate or even accelerate the reaction

Oily cleaning rags should be collected regularly and immersed in water, or spread to dry in safe-place away from direct sunlight or stored, immersed, in solvents in suitably closed containers.

- Limit all unnecessary personal contact.
 - Wear protective clothing when risk of exposure occurs.
- Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.
- Do NOT cut, drill, grind or weld such containers.
 - In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

RECOMMENDED STORAGE METHODS

- Lined metal can, Lined metal pail/drum
- Plastic pail.

STORAGE REQUIREMENTS

- Observe manufacturer's storing and handling recommendations.
- Store at -20° C.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC	Notes
US - California Permissible Exposure Limits for Chemical Contaminants	glyceryl monopalmitate (Manganese and compounds, as Mn)		0.2						
US - Idaho - Limits for Air Contaminants	glyceryl monopalmitate (Manganese compounds (as Mn))						5		
US - Minnesota Permissible Exposure Limits (PELs)	glyceryl monopalmitate (Manganese compounds (as Mn))						5		
US - Minnesota Permissible Exposure Limits (PELs)	glyceryl monopalmitate (Manganese fume (as Mn))		1		3				
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	glyceryl monopalmitate (Manganese compounds (as Mn))						5		
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	glyceryl monopalmitate (Manganese fume (as Mn))		1		3				
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	glyceryl monopalmitate (Manganese fume (as Mn))		(C)5						
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	glyceryl monopalmitate (Manganese compounds (as Mn))						5		
US NIOSH Recommended Exposure Limits (RELs)	glyceryl monopalmitate (Manganese compounds and fume (as Mn))		1		3				[*Note: Also see specific listings for Manganese cyclopentadienyl tricarbonyl, Methyl cyclopentadienyl manganese tricarb
US - Hawaii Air Contaminant Limits	glyceryl monopalmitate (Manganese fume (as Mn))		1		3				

US - Alaska Limits for Air Contaminants	glyceryl monopalmitate (Manganese Compounds (as Mn))		5		
US - Hawaii Air Contaminant Limits	glyceryl monopalmitate (Manganese compounds (as Mn))		5		
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	glyceryl monopalmitate (Manganese and compounds (as Mn))	5			
US - Washington Permissible exposure limits of air contaminants	glyceryl monopalmitate (Manganese and compounds (as Mn))		5		
US - Michigan Exposure Limits for Air Contaminants	glyceryl monopalmitate (Manganese, Compounds (as Mn))		5		
US OSHA Permissible Exposure Levels (PELs) - Table Z1	glyceryl monopalmitate (Manganese compounds (as Mn))		5		
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	glyceryl monopalmitate (Manganese (as Mn): Dust and compounds)	5			
Canada - Northwest Territories Occupational Exposure Limits (English)	glyceryl monopalmitate (Manganese & compounds (as Mn))			5	
Canada - Northwest Territories Occupational Exposure Limits (English)	glyceryl monopalmitate (Manganese fume (as Mn))	1		3	
US - Oregon Permissible Exposure Limits (Z-1)	glyceryl monopalmitate (Manganese Compounds (as Mn))		5		
Canada - Northwest Territories Occupational Exposure Limits (English)	glyceryl monopalmitate (Chromium, Sol. chromic, chromous salts (as Cr))	0.5		0.15	
Canada - Northwest Territories Occupational	glyceryl monopalmitate (Chromite ore processing)	0.05		0.15	

Exposure Limits (English)	(chromate (as Cr))		
US - California Permissible Exposure Limits for Chemical Contaminants	glyceryl monopalmitate (Chromium (III) compounds, as Cr)	0.5	
US NIOSH Recommended Exposure Limits (RELs)	glyceryl monopalmitate (Chromium(III) compounds (as Cr))	0.5	See Appendix C
US OSHA Permissible Exposure Levels (PELs) - Table Z1	glyceryl monopalmitate (Chromium (III) compounds - (as Cr))	0.5	
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	glyceryl monopalmitate (Chromium (III) compounds (as Cr))	0.5	
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	glyceryl monopalmitate (Chromium (III) compounds (as Cr))	0.5	
US - Idaho - Limits for Air Contaminants	glyceryl monopalmitate (Chromium (III) compounds (as Cr))	0.5	
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	glyceryl monopalmitate (Chromium III compounds (as Cr))	0.5	
US - Michigan Exposure Limits for Air Contaminants	glyceryl monopalmitate (Chromium (III) compounds (as Cr))	0.5	
US - Alaska Limits for Air Contaminants	glyceryl monopalmitate (Chromium (III) compounds (as Cr))	0.5	
US - Hawaii Air Contaminant Limits	glyceryl monopalmitate (Chromium (III) compounds (as Cr))	0.5	
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	glyceryl monopalmitate (Chromium (III) compounds (as Cr))	0.5	

Canada - Northwest Territories Occupational Exposure Limits (English)	glyceryl monopalmitate (Chromium (III) compounds (as Cr))		0.5	1.5	
US - Oregon Permissible Exposure Limits (Z-1)	glyceryl monopalmitate (Chromium (III) compounds (as Cr))	-	0.5		
Canada - British Columbia Occupational Exposure Limits	glyceryl monopalmitate (Turpentine and selected monoterpenes Revised 2003)	20			S
Canada - Alberta Occupational Exposure Limits	glyceryl monopalmitate (Turpentine and selected monoterpenes)	20	111		
US - Oregon Permissible Exposure Limits (Z-3)	glyceryl monopalmitate (Inert or Nuisance Dust: (d) Total dust)		10		Oregon Permissible Exposure Limits (PELs) are different than the federal limits.
US OSHA Permissible Exposure Levels (PELs) - Table Z3	glyceryl monopalmitate (Inert or Nuisance Dust: (d) Respirable fraction)		5		
US OSHA Permissible Exposure Levels (PELs) - Table Z3	glyceryl monopalmitate (Inert or Nuisance Dust: (d) Total dust)		15		
US - Hawaii Air Contaminant Limits	glyceryl monopalmitate (Particulates not other wise regulated - Total dust)		10		
US - Hawaii Air Contaminant Limits	glyceryl monopalmitate (Particulates not other wise regulated - Respirable fraction)		5		
US - Oregon Permissible Exposure Limits (Z-3)	glyceryl monopalmitate (Inert or Nuisance Dust:(d) Respirable fraction)		5		Oregon Permissible Exposure Limits (PELs) are different than the federal limits.
Canada - Ontario Occupational Exposure Limits	glyceryl monopalmitate (Particles (Insoluble or Poorly Soluble) Not Otherwise)		10 (I)		

Canada - British Columbia Occupational Exposure Limits	glyceryl monopalmitate (Particles (Insoluble or Poorly Soluble) Not Otherwise Classified (PNOC))	10 (N)	
Canada - Ontario Occupational Exposure Limits	glyceryl monopalmitate (Specified (PNOS) / Particules (insolubles ou peu solubles) non précisées par ailleurs)	3 (R)	
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	glyceryl monopalmitate (Particulates not otherwise regulated Respirable fraction)	5	
US - California Permissible Exposure Limits for Chemical Contaminants	glyceryl monopalmitate (Particulates not otherwise regulated Respirable fraction)	5	(n)
US - Oregon Permissible Exposure Limits (Z-1)	glyceryl monopalmitate (Particulates not otherwise regulated (PNOR) (f) Total Dust)	- 10	Bold print identifies substances for which the Oregon Permissible Exposure Limits (PELs) are different than the federal Limits. PNOR means "particles not otherwise regulated."
US - Michigan Exposure Limits for Air Contaminants	glyceryl monopalmitate (Particulates not otherwise regulated, Respirable dust)	5	
US - Oregon Permissible Exposure Limits (Z-1)	glyceryl monopalmitate (Particulates not otherwise regulated (PNOR) (f) Respirable Fraction)	- 5	Bold print identifies substances for which the Oregon Permissible Exposure Limits (PELs) are different than the federal Limits. PNOR means "particles not otherwise regulated."
US - Wyoming Toxic and Hazardous Substances	glyceryl monopalmitate (Particulates not otherwise	5	

Table Z1 Limits for Air Contaminants regulated (PNOR)(f)-Respirable fraction)

Canada - Prince Edward Island Occupational Exposure Limits	glyceryl monopalmitate (Particles (Insoluble or Poorly Soluble) [NOS] Inhalable particles)	10	See Appendix B current TLV/BEI Book
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ENDOELTABLE

PERSONAL PROTECTION



RESPIRATOR

•Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

EYE

- Safety glasses with side shields
- Chemical goggles.

HANDS/FEET

■ Wear general protective gloves, e.g.. light weight rubber gloves.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

• When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

• When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

• Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

• Protective gloves eg. Leather gloves or gloves with Leather facing.

OTHER

■ No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls.
- Barrier cream.

ENGINEERING CONTROLS

■ Care: Atmospheres in bulk storages and even apparently empty tanks may be hazardous by oxygen depletion. Atmosphere must be checked before entry.

Requirements of State Authorities concerning conditions for tank entry must be met. Particularly with regard to training of crews for tank entry; work permits; sampling of atmosphere; provision of rescue harness and protective gear as needed.

• Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.

• Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solid.

Does not mix with water.

State	Divided solid	Molecular Weight	330.51
Melting Range (°F)	165- 169 (DL-form)	Viscosity	Not Applicable

Boiling Range (°F)	Not available	Solubility in water (g/L)	Immiscible
Flash Point (°F)	Not available	pH (1% solution)	Not applicable
Decomposition Temp (°F)	Not available.	pH (as supplied)	Not applicable
Autoignition Temp (°F)	Not available	Vapour Pressure (mmHG)	Negligible
Upper Explosive Limit (%)	Not available	Specific Gravity (water=1)	Not available
Lower Explosive Limit (%)	Not available	Relative Vapor Density (air=1)	>1
Volatile Component (%vol)	Negligible	Evaporation Rate	Not applicable

APPEARANCE

White crystalline powder; does not mix with water. Soluble in ether, chloroform.

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.

STORAGE INCOMPATIBILITY

■ Vegetable oils and some animal fats undergo undesirable deterioration reactions in the presence of oxygen from the air becoming rancid accompanying off-flavours and smells.

The mechanism of autoxidation of vegetable oils is classically regarded as following a number of stages being:

- a usually slow initiation phase
- a usually rapid propagation
- and a termination phase

The initiation phase involves the formation of a free radical from a triglyceride molecule in the fat: this may be promoted by the presence of heavy metals in the oil, or by heat or light. The next stage is the reaction of the triglyceride free radical with oxygen to produce a peroxide free radical, which can react with another triglyceride to produce a hydroperoxide and another triglyceride free radical. Steps 2 and 3 can repeat in a chain reaction until two peroxy free radicals collide and neutralise each other.

Some drying oils produce cyclic peroxides instead of hydroperoxides.

Autoxidation may also occur in saturated fatty acids and their esters. Monohydroperoxides are formed. Although all carbon atoms are subject to oxidation, preferential oxidation appears to occur towards the centre of the molecule.

Autoxidation is assisted by higher ambient temperatures (the rate doubling for every ten degrees Centigrade rise) and by the presence of heavy metal ions, especially copper. The degree of unsaturation of the oil is also relevant to shelf-life; oils with a high linolenic fatty acid content (3 double bonds) being more prone than those with a higher saturated fatty acid content. Autoxidation can be minimized by the presence of anti-oxidants, which can act as free-radical inhibitors. Vegetable oils should therefore be stored in a cool place away from heat and light, and should only come into contact with inert (glass or stainless steel) containers which will not leach heavy metals. Blanketing under nitrogen should be considered in bulk storages.

Food grade materials must be protected from all possible contaminants.

Avoid reaction with oxidizing agents.

- Materials soaked with plant/ vegetable derived (and rarely, animal) oils may undergo spontaneous combustion.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

glyceryl monopalmitate

TOXICITY AND IRRITATION

GLYCERYL MONOPALMITATE:

■ No significant acute toxicological data identified in literature search.

CARCINOGEN

Chromium (III) compounds	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	3
glyceryl monopalmitate	US - Rhode Island Hazardous Substance List	IARC	C
CHROMIUM COMPOUNDS	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	HAZMAP, P65-MC
BROMINE COMPOUNDS (ORGANIC OR INORGANIC)	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	P65-MC

VPVB_(VERY~	US - Maine Chemicals of High Concern List	Carcinogen	CA Prop 65; IARC; NTP 11th ROC
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Section 12 - ECOLOGICAL INFORMATION

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 This material and its container must be disposed of as hazardous waste.
 Avoid release to the environment.
 Refer to special instructions/ safety data sheets.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
glyceryl monopalmitate	HIGH	No Data Available	LOW	MED

GESAMP/EHS COMPOSITE LIST - GESAMP Hazard Profiles

Name / EHS TRN A1a A1b A1 A2 B1 B2 C1 C2 C3 D1 D2 D3 E1 E2 E3 Cas No / RTECS No _____
 _____ Poly 198 218 (5) (5) NR 0 NI 0 0 0 0 0 Fp 2 alkyl 4 9 methacryl ate (C1- C20) (LOA) /
 CAS:542- 44- 9 /

Legend: EHS=EHS Number (EHS=GESAMP Working Group on the Evaluation of the Hazards of Harmful Substances Carried by Ships)
 NRT=Net Register Tonnage, A1a=Bioaccumulation log Pow, A1b=Bioaccumulation BCF, A1=Bioaccumulation, A2=Biodegradation,
 B1=Acuteaquatic toxicity LC/ECIC50 (mg/l), B2=Chronic aquatic toxicity NOEC (mg/l), C1=Acute mammalian oral toxicity LD50 (mg/kg),
 C2=Acute mammalian dermal toxicity LD50 (mg/kg), C3=Acute mammalian inhalation toxicity LC50 (mg/kg), D1=Skin irritation &
 corrosion, D2=Eye irritation& corrosion, D3=Long-term health effects, E1=Tainting, E2=Physical effects on wildlife & benthic habitats,
 E3=Interference with coastal amenities, For column A2: R=Readily biodegradable, NR=Not readily biodegradable. For column D3:
 C=Carcinogen, M=Mutagenic, R=Reprotoxic, S=Sensitising, A=Aspiration hazard, T=Target organ systemic toxicity, L=Lunginjury,
 N=Neurotoxic, I=Immunotoxic. For column E1: NT=Not tainting (tested), T=Tainting test positive. For column E2: Fp=Persistent floater,
 F=Floater, S=Sinking substances. The numerical scales start from 0 (no hazard), while higher numbers reflect increasing hazard.
 (GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships)

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.
 | Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating
 in their area. In some areas, certain wastes must be tracked.
 A Hierarchy of Controls seems to be common - the user should investigate:
 · Reduction
 · Reuse
 · Recycling
 · Disposal (if all else fails)
 This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life
 considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and
 recycling or reuse may not always be appropriate.
 DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.
 · Recycle wherever possible.
 · Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal
 facility can be identified.

Section 14 - TRANSPORTATION INFORMATION



DOT:
 Symbols: G Hazard class or Division: 9
 Identification Numbers: UN3077 PG: III
 Label Codes: 9 Special provisions: 8, 146,
 335, B54,

IB8, IP3,
N20, T1,
TP33

Packaging: Exceptions: 155 Packaging: Non- bulk: 213

Packaging: Exceptions: 155 Quantity limitations: No limit

Passenger aircraft/rail:

Quantity Limitations: Cargo No limit Vessel stowage: Location: A
aircraft only:

Vessel stowage: Other: None S.M.P.: YES

Hazardous materials descriptions and proper shipping names:

Environmentally hazardous substance, solid, n.o.s

Air Transport IATA:

UN/ID Number: 3077 Packing Group: III

Special provisions: A97

Cargo Only

Packing Instructions: 956 Maximum Qty/Pack: 400 kg

Passenger and Cargo Passenger and Cargo

Packing Instructions: Y956 Maximum Qty/Pack: 400 kg

Passenger and Cargo Limited Quantity Passenger and Cargo Limited Quantity

Packing Instructions: 956 Maximum Qty/Pack: 30 kg G

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S. *(CONTAINS GLYCERYL MONOPALMITATE)

Maritime Transport IMDG:

IMDG Class: 9 IMDG Subrisk: None

UN Number: 3077 Packing Group: III

EMS Number: F-A,S-F Special provisions: 274 335

Limited Quantities: 5 kg Marine Pollutant: Yes

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(contains glyceryl monopalmitate)

Section 15 - REGULATORY INFORMATION

glyceryl monopalmitate (CAS: 542-44-9,19670-51-0,32899-41-5,11140-06-0,26657-96-5) is found on the following regulatory lists;

"Canada Domestic Substances List (DSL)","US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory"

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

Substance CAS Suggested codes glyceryl monopalmitate 542- 44- 9 N; R50/53 glyceryl monopalmitate 19670- 51- 0 N; R50/53 glyceryl monopalmitate 32899- 41- 5 N; R50/53 glyceryl monopalmitate 11140- 06- 0 N; R50/53 glyceryl monopalmitate 26657- 96- 5 N; R50/53

Ingredients with multiple CAS Nos

Ingredient Name CAS glyceryl monopalmitate 542-44-9, 19670-51-0, 32899-41-5, 11140-06-0, 26657-96-5

Reasonable care has been taken in the preparation of this information, but the author makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The author makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. For additional technical information please call our toxicology department on +800 CHEMCALL.

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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