(-)-Guaiol

sc-250071

Material Safety Data Sheet

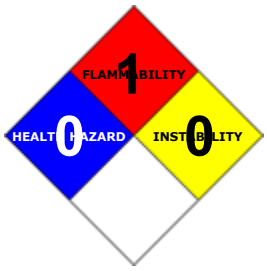
Hazard Alert Code Key:	EXTREME	HIGH	MODERATE	LOW

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
(-)-Guaiol

STATEMENT OF HAZARDOUS NATURE
Not 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
C15-H26-0, "5-azulenemethanol, 1, 2, 3, 4, 6, 7, 8-octahydro-alpha, alpha-3, 8-", tetramethyl-, "(3alpha, 5alpha, 8alpha)]-", guaia-1(5)-en-11-ol, guaiaenol, (-)-guaiol, "(3R, 6S, 10S)-", "6, 10, alpha, alpha-tetramethylbicyclo[5.3.0]dec-17-1(7)-ene-3-methanol", "sesquiterpene alcohol"

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

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.

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.
■ Open cuts, abraded or irritated skin should not be exposed to this material.

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.

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.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
guaiol	489-86-1	>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 dust is inhaled, remove from contaminated area. · Encourage patient to blow nose to ensure clear passage of breathing. · If irritation or discomfort persists seek medical attention.

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.

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 (CO_2), other pyrolysis products typical of burning organic material.

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
· Clean up all spills immediately.
· Avoid contact with skin and eyes.
MAJOR SPILLS
· 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

· 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

· Store in original containers.
· Keep containers securely sealed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³	Peak ppm	Peak mg/m³	TWA F/CC	Notes
Canada - British Columbia Occupational Exposure Limits	guaiol (Silver and Compounds (as Ag))		0.01		0.03				
US NIOSH Recommended Exposure Limits (RELs)	guaiol (Nickel metal and other compounds (as Ni))		0.015						See Appendix A [*Note: The REL and PEL do not apply to Nickel carbonyl.]; Ca

Canada - Northwest Territories Occupational Exposure Limits (English)	guaiol (Nickel sulfide roasting, fume and dust (as Ni))		1	3
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	guaiol (Nickel: Soluble compounds (as Ni))		0.1	
Canada - Alberta Occupational Exposure Limits	guaiol (Nickel - Soluble compounds, as Ni)		0.1	
Canada - Ontario Occupational Exposure Limits	guaiol (Soluble compounds, as Ni / Composés solubles, en Ni)		0.1 (I)	
US - California Permissible Exposure Limits for Chemical Contaminants	guaiol (Nickel, soluble compounds, as Ni)		0.05	
US - Oregon Permissible Exposure Limits (Z-1)	guaiol (Nickel, soluble compounds, (as Ni))	-	1	
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	guaiol (Nickel, soluble compounds (as Ni))		1	
Canada - Northwest Territories Occupational Exposure Limits (English)	guaiol (Nickel, soluble compounds (as Ni))		0.1	0.3
US OSHA Permissible Exposure Levels (PELs) - Table Z1	guaiol (Nickel, soluble compounds (as Ni))		1	
US - Alaska Limits for Air Contaminants	guaiol (Nickel Soluble compounds (as Ni))		0.1	
US - Michigan Exposure Limits for Air Contaminants	guaiol (Nickel, Soluble compounds (as Ni))		0.1	
US - Minnesota Permissible Exposure Limits (PELs)	guaiol (Nickel, soluble compounds (as Ni))		0.1	
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	guaiol (Nickel, soluble compounds (as Ni))		1	

US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	guaiol (Nickel, metal and insoluble compounds (as Ni))		1		
US - Idaho - Limits for Air Contaminants	guaiol (Nickel, soluble compounds (as Ni))		1		
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	guaiol (Nickel, soluble compounds (as Ni))		0.1		
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	guaiol (Nickel, soluble compounds (as Ni))	-	0.1	0.3	
US - Washington Permissible exposure limits of air contaminants	guaiol (Nickel (as Ni) -áSoluble compounds)		0.1	0.3	
US - Hawaii Air Contaminant Limits	guaiol (Nickel, soluble compounds (as Ni))		0.1	0.3	
US - Oregon Permissible Exposure Limits (Z-3)	guaiol (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	guaiol (Inert or Nuisance Dust: (d) Respirable fraction)		5		
US OSHA Permissible Exposure Levels (PELs) - Table Z3	guaiol (Inert or Nuisance Dust: (d) Total dust)		15		
US - Hawaii Air Contaminant Limits	guaiol (Particulates not other wise regulated - Total dust)		10		
US - Hawaii Air Contaminant Limits	guaiol (Particulates not other wise regulated - Respirable fraction)		5		
US - Oregon Permissible Exposure Limits (Z-3)	guaiol (Inert or Nuisance Dust:(d) Respirable fraction)		5		Oregon Permissible Exposure Limits (PELs) are different than the federal limits.

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
■ Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:
· 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.
Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.
· polychloroprene
· nitrile rubber
· butyl rubber
· fluorocaoutchouc
· polyvinyl chloride
Gloves should be examined for wear and/ or degradation constantly.

OTHER
■ No special equipment needed when handling small quantities.
OTHERWISE:
· Overalls.
· Barrier cream.

ENGINEERING CONTROLS
· 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	222.37
Melting Range (°F)	Not available	Viscosity	Not Applicable
Boiling Range (°F)	Not available	Solubility in water (g/L)	Partly miscible
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 available

APPEARANCE

Solid; does not mix well with water.

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY
■ Product is considered stable and hazardous polymerization will not occur.

STORAGE INCOMPATIBILITY
■ Avoid contamination of water, foodstuffs, feed or seed.
Avoid reaction with oxidizing agents.

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

Section 11 - TOXICOLOGICAL INFORMATION

guaiol

TOXICITY AND IRRITATION
GUAIOL:
■ No significant acute toxicological data identified in literature search.

CARCINOGEN

Nickel, metallic and alloys	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	2B
Nickel compounds	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	1
guaiol	US - Rhode Island Hazardous Substance List	IARC	C
NICKEL COMPOUNDS	US Environmental Defense Scorecard Recognized Carcinogens	Reference(s)	P65
SOLUBLE NICKEL COMPOUNDS	US Environmental Defense Scorecard Recognized Carcinogens	Reference(s)	P65-MC
NICKEL COMPOUNDS	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	P65
SOLUBLE NICKEL COMPOUNDS	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	P65-MC
Nickel (and compounds)	US Air Toxics Hot Spots TSD for Describing Available Cancer Potency Factors	IARC Class	1,2B(N2)
Nickel and its Compounds	US NIOSH Recommended Exposure Limits (RELs) - Carcinogens	Carcinogen	Ca
VPVB_(VERY~	US - Maine Chemicals of High Concern List	Carcinogen	CA Prop 65; IARC; NTP 11th ROC

Section 12 - ECOLOGICAL INFORMATION

No data

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

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: DOT, IATA, IMDG

Section 15 - REGULATORY INFORMATION

guaiol (CAS: 489-86-1,33496-08-1) is found on the following regulatory lists;
"Canada Domestic Substances List (DSL)","International Fragrance Association (IFRA) Survey: Transparency List","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 guaiol 489- 86- 1 N; R51/53 guaiol 33496- 08- 1 N; R51/53

Ingredients with multiple CAS Nos
Ingredient Name CAS guaiol 489-86-1, 33496-08-1

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■ 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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