

MATERIAL SAFETY DATA SHEET OF ESSENTIAL OILS FROM NEPAL



Government of Nepal

Ministry of Forests and Soil Conservation
Department of Plant Resources
Natural Products Research Laboratory
Thapathali, Kathmandu, Nepal
2016

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Kathmandu



Forewords

Nepal has rich heritage of Medicinal and Aromatic Plants (MAPs). Essential oils obtained from different aromatic plants are exported abroad. In present context Government of Nepal is putting effort to enhance the value added products like essential oils and herbal extracts rather than crude herbs. Quality certification and some technical data are necessary to get entry in to EU, US and other markets. Nepal Trade Integration Strategy (NTIS) 2010 gave us an opportunity to strengthen our laboratory, impart training to technicians, some relevant equipment which helped us to formulate some data and document which will help in export of essential oils.

This document will help Nepal to increase its export potential and make it easier for the business community to export value added material to lucrative markets in the west which will ultimately uplift the livelihood of Nepalese village people who are engaged in the cultivation and collection of MAPs. There has been contribution from all stakeholders to bring out this work on MAPs, We are also hopeful that this will also prove valuable to researchers and students as a reference for various products available in Nepal. We hope this document will be milestone in exporting essentials oil from Nepal.

Thanks who helps to prepare this documents.

.....
Raj Dev Prasad Yadav

Director General, Department of Plant Resources,
Thapathali, Kathmandu
July, 2016

Acknowledgment

Medicinal and Aromatic Plants (MAPs) are niche products of Nepal, prioritized by Government of Nepal as one of the exporting commodity. Nepal Trade Integration Strategy (NTIS)- 2010 has selected herbs and essential oils and herbs as one of the competitive advantage group of commodity, export of which can make difference in livelihood as well as increase growth in export scenario exporting Value added products like essential oils and herbs extracts, need some technical documents regarding their technical information and identity. Material Safety Data Sheet (MSDS) is among one which will ease the export of Nepalese essential oils in EU, US and other markets.

Natural Products Research Laboratory, Department of Plant Resources took initiative to prepare the Safety Data Sheet to support Nepalese entrepreneurs and exporters in enhancing the export of essential oils.

Mr. Raj Dev Prasad Yadav, Director General, Department of Plant Resources is greatly acknowledged for his tremendous support and guidance in the entire work. Sincere thanks goes to Mrs. Sushma Upadhyay, Deputy Director General and Mr. Sanjev Kumar Rai, Deputy Director General for their valuable inputs and technical support.

Mr. Khilendra Gurung; Himalayan Bio Trade Pvt. Ltd, Mr. Govinda Ghimire; President of Nepal Herbs and Herbal Products Association (NEHHPA), Dr. Krishna Ram Amatya; Shambhala Herbs and Aromatic Industry, Mr. Ramesh Sthapit and all stakeholders are highly appreciated for initiating, materializing and making this task fruitful. We would also like to thank entire team of Natural Products Research Laboratory for their dedication and support in laboratory work and data compilation. We sincerely believe that this document will be helpful in exporting Nepalese essential oils.

Natural Products Research Laboratory
Thapathali, Kathmandu
July, 2016

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Abbreviations and acronyms

AICS: Australian Inventory of Chemical Substances

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS No.: Chemical Abstracts Service Registry Numbers

CLP: Classification, Labeling and Packaging of Substances and Mixtures

DPR: Department of Plant Resources

EEC: European Economic Community

ECHA: European Chemical Agency

EINECS: European Inventory of Existing Commercial Chemical Substances

EU: European Union

FEMA: Flavour and Extracts Manufacturers Association

GHS: Global Harmonized System

HDPE: High-Density Polyethylene

HMIS: Hazardous Materials Identification System

HSNO: Hazardous Substances and New Organisms

IATA: International Air Transport Association

IMDG: International Maritime Dangerous Goods

INCI: International Nomenclature of Cosmetics Ingredients

LC₅₀: Lethal Concentration for 50% Mortality

LD₅₀: Lethal Dose for 50% Mortality

MAPs: Medicinal and Aromatic Plants

MSDS: Material Safety Data Sheet

NAFTA: North American Free Trade Agreement

NEHHPA: Nepal Herbs and Herbal Products Association

NPRL: Natural Products Research Laboratory

NTFPs: Non Timber Forest Products

NTIS: Nepal Trade Integration Strategy

OSHA: Occupational Safety and Health Administration

REACH: Registration, Evaluation, Authorization and Restriction of Chemicals

RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail

SDS: Safety Data Sheet

SUSMP: Standards for the Uniform Scheduling of Medicines and Poisons

TSCA: Toxic Substances Control Act

UN: United Nations

US: United States

WHMIS: Workplace Hazardous Materials Information System

Chapter One

1.1 Introduction:

Essential oils are one of the high value and low volume commodity exported from Nepal. Out of the total production of essential oils in Nepal only few quantities are consumed in domestic market while major portions are exported mainly to India, EU and US based markets.

For the export to EU, US and other international markets, Material Safety Data Sheet (MSDS) for essential oils are mandatory requirements. As accordance to the European Commission (EC) Legislation Directive 91/155/EEC and 2001/58/EC or OSHA: CFR 1910: 1200 (US), MSDS is essential for the entry to EU and US with delivered products.

MSDS is an important component of product stewardship and occupational safety and health. It is intended to provide workers and emergency personnel with procedures for handling or working with that substance in a safe manner. It includes information such as physical data, toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment and spill-handling procedures.

Obligatory 16-points information system templates for MSDS sheets are needed. But, MSDS formats may vary from source to source within a country depending on national requirements.

The technical level of information on essential oils presented by many exporters in MSDS is often extremely poor. But customers have the right to demand from their suppliers, a level of information which they can both understand and which is suitable for purpose. In addition, only basic tests for some items of essential oils have been done in Nepal and limited literature based information are available to fulfill the requirements for MSDS.

Owing to these circumstances, essential oils exporters in Nepal often have to depend on buyers for conducting such obligatory tests and depend on the secondary sources for the preparation of MSDS of the respective products.

Therefore, Natural Products Research Laboratory (NPRL) at Department of Plant Resources (DPR) in consultation with essential oils exporters took the initiative to develop MSDS template which the exporters can use with their information during delivery of products to their destinations.

1.2 International requirements:

1.2.1 Canada

In Canada, Workplace Hazardous Materials Information System (WHMIS) establishes the requirements for MSDS in workplaces and is administered federally by Health Canada under the Hazardous Products Act, Part II, and the Controlled Products Regulations. WHMIS and MSDS requirements are also enforced by provincial Ministries or Departments of Labor.

1.2.2 European Union

Safety Data Sheets (SDS) has been made an integral part of the System of Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). The original requirements of REACH for SDS have been further adapted to take into account the rules for SDS of the Global Harmonized System (GHS) and the implementation of other elements of the GHS into EU legislation that were introduced by Regulation (EC) No 1272/2008 (CLP) via an update to Annex II of REACH.

The SDS follows a 16 section format which is internationally agreed and for substances especially, the SDS should be followed with an Annex which contains the exposure scenarios of this particular substance. The SDS must be supplied in an official language of the Member State(s) where the substance or mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise (Article 31(5) of REACH).

The European Chemicals Agency (ECHA) has published a guidance document on the compilation of SDS.

1.2.3 United Nations

The United Nations (UN) defines certain details used in SDS such as the UN numbers used to identify some hazardous materials in a standard form while in international transit.

1.2.4 United States

In the United States, the Occupational Safety and Health Administration (OSHA) requires that MSDS be available to employees for potentially harmful substances handled in the workplace under the Hazard Communication Regulation. The MSDS is also required to be made available to local fire departments and local and state emergency planning officials under Section 311 of the Emergency Planning and Community Right-to-Know Act. The American Chemical Society defines Chemical Abstracts Service Registry Numbers (CAS numbers) which provide a unique number for each chemical and are also used internationally in MSDS.

CHAPTER TWO

Material Safety Data Sheet (MSDS) of Large Cardamom Essential Oil

Section 1: Product and Responsible Organization Identification

Product Name: Large Cardamom essential oil

Common Name: Large Cardamom oil

Botanical Name: *Amomum subulatum* Roxb.

Synonym: Not available

Other Name: Not available

Australian AICS Name: Not allocated

USA INCI Name: Not allocated

EU INCI Name: Not allocated

Contact Information:

Manufacturer/Supplier:

Street address/PO Box:

Place/Country:

Tel:

Emergency Tel:

E-mail:

Section 2: Hazards Identification

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS classification]

Not a SUSMP Scheduled Poison

Flammable: Combustible liquid produces oxides of carbon when burning.

Xi: Irritant

Others: Not identified.



Section 3: Composition and Information on Ingredients

CAS No.: N/A

EINECS No.: N/A

FEMA: N/A

NAFTA: Not available

REACH Registration No.: Not available

% by Weight: 100

Contents: 1,8-cineole, α -pinene, β -pinene, α -terpineol

Country of Origin: Nepal

Section 4: First Aid Measures

1. Eye Contact: Do not try to remove any contact lenses unless trained and immediately flush affected eye with plenty of water for at least 15 minutes ensuring irrigation under eyelids and get medical attention.

2. Skin Contact: Remove contaminated clothing and shoes. Wash clothes and shoes before reuse. Immediately flush skin with plenty of water and soap for 15 minutes and get medical attention.

3. Inhalation: Try to get fresh air as quickly as possible, if not breathing give artificial respiration, if breathing is difficult provide oxygen and get medical attention.

4. Ingestion: Do not induce vomiting unless directed to do so by medical personnel. Drink water slowly as much as casualty can comfortably drink in conscious state to dilute. Never give anything by mouth to an unconscious person. Never give anything to a person showing signs of reduced awareness or is being slowly unconscious. Contact physician or local poison centre immediately. If vomiting occurs, lean patient forward to maintain open airway and prevent aspiration.

5. Advice to Doctor: Treat symptomatically; note the nature of this product.

Section 5: Fire Fighting Measures

Products of Combustion: Oxides of carbon.

Fire Hazards in Presence of Various Substances: Not available.

Special Remarks on Fire Hazards: Not identified.

Protective Equipment: Self-contained breathing apparatus and protective clothing should be worn when fighting fires involving essential oils or chemicals.

Extinguishing Media: Carbon dioxide, dry chemical or foam. Closed containers may build up pressure at elevated temperature.

Special Procedures: Determine the need to evacuate or isolate the area according to your local emergency plan.

Unsuitable Extinguishing Products: Water spray; Others not established.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill: Keep away this combustible material from heat and source of ignition. Stop the leak if it can be done without risk. Finish cleaning by spreading water on the contaminated surface and allow evacuating through the sanitary system.

Personal Protection: Use of self-contained breathing apparatus is recommended for any major chemical spill. Refer also to section 8.

Safety Precautions: Eliminate all ignition sources. Ventilate the area. Determine the need to evacuate or isolate the area according to your local emergency plan.

Environmental Protection: Keep away from drains, surface and ground water. Report spills to appropriate authorities if required.

Methods of Cleaning/Disposal: Contain spill and recover free product. Absorb remainder on vermiculite or other suitable absorbent material. Wipe small spills with cloth. Clean with hot water and detergent. Refer also to Section 13 for disposal procedures.

Section 7: Handling and Storage

Handling and Precautions: Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/vapour/spray. Wear suitable protective clothing and maintain good personal hygiene practices. Wash hand after any contact with the container. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

Storage: Keep in a cool, well-ventilated area protected from light and extreme heat. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition. Store in stainless steel drums or aluminum containers or HDPE containers. For short term storage only steel drums lined with epoxy phenolic can be used.

Specific Procedures: Protect against electrostatic charges; Others not established.

Section 8: Exposure Controls/Personal Protection

Exposure Limits: There is a blanket recommendation of 10 mg/m³ for inspirable dusts or mists when limits have not otherwise been established.

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the air borne concentrations of vapours below their respective threshold limit value. Ensure that eye wash stations and safety showers are proximal to the work-station location.

Personal Protection: Splash goggles. Lab coat. Vapour respirator. Be sure to use an approved/certified respirator or equivalent. Use gloves.

Personal Protection in case of a Large Spill: Splash goggles. Full suit. Vapour respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist before handling this product in case of large spill.

Respiratory Protection: Not generally required. Used approved/certified respirator in confined areas or if ventilation is inadequate.

Hand Protection: Use of chemical resistant gloves is recommended.

Eye Protection: Use of goggles or face shield is recommended.

Protective Clothing and Equipment: Use of chemical resistance clothing is recommended along with eye wash fountain and safety shower in the working area.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol / spray applications may require additional precautions.

Section 9: Physical and Chemical Properties

Physical State and Appearance: Liquid

Colour: dark yellow to brown

pH: Not available

Odour: Characteristic; spicy odour

Specific Gravity: 0.932 at 20°C

Refractive Index: 1.462 at 20°C

Optical Rotation: [-] 3.74 at 20°C

Boiling Point: Not available

Melting Point: Not available

Acid Value: 3.13 at 20°C

Ester Value: 8.7 at 20°C

Ester Value after Acetylation: Not available

Flash Point: 58.89°C

Flammability: Combustible liquid

Vapour Pressure: Not available

Vapour Density: Not available

Ionicity (in Water): Not available

Solubility: Soluble in alcohol and oils

Solubility in Water: Insoluble

Section 10: Stability and Reactivity

Stability: Chemically stable.

This material presents no significant reactivity hazard.

Conditions of Instability: Not established.

Polymerization: Will not occur.

Flammability: Combustible liquid.

Special Remarks on Corrosivity: Not available.

Special Remarks on Reactivity: Not available.

Hazardous Combustion or Decomposition Products: Carbon monoxide and unidentified organic compounds may be formed during combustion.

Conditions to Avoid: avoid sparks, flame and excessive heat.

Materials to Avoid: Strong oxidizing agents.

Section 11: Toxicological Information



Routes of Entry: Eye contact, inhalation, ingestion and skin contact.

Acute Oral Toxicity (LD₅₀): Low order toxicity causing irritation of the stomach and intestines which results in nausea and vomiting.

Acute Dermal Toxicity (LD₅₀): Repeated or prolonged contact can cause redness, irritation and scaling of skin (dermatitis). Adverse skin effects should be prevented by normal care and personal hygiene.

Acute Inhalation Toxicity (LC₅₀): Inhalation of high concentrations of vapour may result in irritation of eyes, nose, throat, headache, nausea, and dizziness.

Chronic Effects: May cause allergic reaction on skin

Short Term Toxicity: Not identified.

Long Term Toxicity: Not identified.

Exposure Limits: Not identified.

Human Exposure Tests: Not identified.

Mutagenic Effects: Not identified.

Reproductive Effects: Not identified.

Sensitisation: Not identified.

Section 12: Ecological Information

Eco-toxicity: Toxic to aquatic organism may cause long-term adverse effects in the aquatic environment. Avoid pollution to ground, surface or underground water bodies.

Mobility: Low mobility in soil.

Bio-accumulative Potential: Not established.

Special Remarks on the Products of Biodegradation: Low persistent level and readily biodegradable.

Bio-accumulative Potential: Not established.

Other Adverse Effects: Not established.

Section 13: Disposal Considerations

Waste Disposal: Place material or absorbent into sealed containers and dispose of in accordance with current applicable laws and regulations. Do not use empty containers.

Contaminated Packaging: Dispose of in accordance with current applicable laws and regulations. Refer to local authority advice.

Empty Container Disposal: Empty containers can have residues, gases and mists. Use the proper Waste Disposal Methods and Procedures for Empty Containers as well.

Section 14: Transport Information

Transportation: No special transport required. Not to be transported with explosives, flammable gases (when individual container exceed 500 litres), toxic gases, spontaneously combustible substances, oxidising agents, organic peroxides, radioactive substances and foodstuffs.

UN Number: 1169.

Proper Shipping Name: Liquid aromatic extract.

Environmental Hazards: This is an environmentally hazardous substance.

Packing Group: III.

Road: Class 3.

Rail: Not allocated.

Sea: IMDG 3.

Air: IATA 3.

Section 15: Regulatory Information

Federal and State Regulations: Not available

Other Regulations: Not available.

Hazards: Flammable.

Symbols: Xn, Xi and F.

Risk Phrases:

R10: Flammable.

R22: Harmful if swallowed.

R36/37/38: Irritating to eyes, respiratory system, skin

Safety Phrases:

S20/23: when using do not eat, drink, inhale

S24/25: avoid contact with skin, eye

Protective Equipment: Gloves, Lab Coat, Vapour respirator (use approved/certified respirator or equivalent).
Wear appropriate respirator when ventilation is inadequate and use Splash goggles.

Section 16: Other Information

Sources: The International Cosmetic Ingredient Dictionary and Handbook; IATA Dangerous Goods Regulations, HMIS Standard.

Other Special Considerations: Not available.

Created:

Last Updated:

Disclaimer:

The information in this safety data sheet is correct to the best of our knowledge. We do not accept liability for loss, injury or damage that may result from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

Please ensure that this safety data sheet is passed to the appropriate person(s) in your company, who is capable of acting on the information.

Shipper:

Signature: _____

Material Safety Data Sheet (MSDS) of Cedarwood Essential Oil

Section 1: Product and Responsible Organization Identification

Product Name: Cedarwood Essential Oil
Common Name: Cedarwood Himalayan Oil
Botanical Name: *Cedrus deodara* (Roxb.) G. Don
Synonym: Not available
Other Name: Himalayan Cedarwood
Australian AICS Name: Not allocated
USA INCI Name: Not allocated
EU INCI Name: Not allocated

Contact Information:
Manufacturer/Supplier:
Street address/PO Box:
Place/Country:
Tel:
Emergency Tel:
E-mail:

Section 2: Hazards Identification

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS classification]

Not a SUSMP Scheduled Poison

Flammable: Combustible liquid, produces oxides of carbon when burning.

Xi: Irritant

Others: Not identified.



Section 3: Composition and Information on Ingredients

CAS No.: 8000-27-9

EINECS No.: 91722-61-1

FEMA: Not available

NAFTA: Not available

REACH Registration No.: Not available

% by Weight: 100

Contents: α -Himachalene, Himachalol, α -atlantones, γ -atlantones

Country of Origin: Nepal

Section 4: First Aid Measures

- 1. Eye Contact:** Do not try to remove any contact lenses unless trained and immediately flush affected eye with plenty of water for at least 15 minutes ensuring irrigation under eyelids and get medical attention.
- 2. Skin Contact:** Remove contaminated clothing and shoes. Wash clothes and shoes before reuse. Immediately flush skin with plenty of water and soap for 15 minutes and get medical attention.
- 3. Inhalation:** Try to get fresh air as quickly as possible, if not breathing give artificial respiration, if breathing is difficult provide oxygen and get medical attention.
- 4. Ingestion:** Do not induce vomiting unless directed to do so by medical personnel. Drink water slowly as much as casualty can comfortably drink in conscious state to dilute. Never give anything by mouth to an unconscious person. Never give anything to a person showing signs of reduced awareness or is being slowly unconscious. Contact physician or local poison centre immediately. If vomiting occurs, lean patient forward to maintain open airway and prevent aspiration.
- 5. Advice to Doctor:** Treat symptomatically; Note the nature of this product.

Section 5: Fire Fighting Measures

Products of Combustion: Oxides of carbon.

Fire Hazards in Presence of Various Substances: Not available.

Special Remarks on Fire Hazards: Not identified.

Protective Equipment: Self-contained breathing apparatus and protective clothing should be worn when fighting fires involving essential oils or chemicals.

Extinguishing Media: Carbon dioxide, dry chemical or foam. Closed containers may build up pressure at elevated temperature.

Special Procedures: Determine the need to evacuate or isolate the area according to your local emergency plan.

Unsuitable Extinguishing Products: Water spray; Others not established.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill: Keep away this combustible material from heat and source of ignition. Stop the leak if it can be done without risk. Finish cleaning by spreading water on the contaminated surface and allow evacuating through the sanitary system.

Personal Protection: Use of self-contained breathing apparatus is recommended for any major chemical spill. Refer also to section 8.

Safety Precautions: Eliminate all ignition sources. Ventilate the area. Determine the need to evacuate or isolate the area according to your local emergency plan.

Environmental Protection: Keep away from drains, surface and ground water. Report spills to appropriate authorities if required.

Methods of Cleaning/Disposal: Contain spill and recover free product. Absorb remainder on vermiculite or other suitable absorbent material. Wipe small spills with cloth. Clean with hot water and detergent. Refer also to Section 13 for disposal procedures.

Section 7: Handling and Storage

Handling and Precautions: Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/vapour/spray. Wear suitable protective clothing and maintain good personal hygiene practices. Wash hand after any contact with the container. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

Storage: Keep in a cool, well-ventilated area protected from light and extreme heat. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition. Store in stainless steel drums or aluminum containers or HDPE containers. For short term storage only steel drums lined with epoxy phenolic can be used.

Specific Procedures: Protect against electrostatic charges, Others not established.

Section 8: Exposure Controls/Personal Protection

Exposure Limits: There is a blanket recommendation of 10 mg/m³ for inspirable dusts or mists when limits have not otherwise been established.

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective threshold limit value. Ensure that eye wash stations and safety showers are proximal to the work-station location.

Personal Protection: Splash goggles. Lab coat. Vapour respirator. Be sure to use an approved/certified respirator or equivalent. Use gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Vapour respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist before handling this product in case of large spill.

Respiratory Protection: Not generally required. Used approved/certified respirator in confined areas or if ventilation is inadequate.

Hand Protection: Use of chemical resistant gloves is recommended.

Eye Protection: Use of goggles or face shield is recommended.

Protective Clothing and Equipment: Use of chemical resistance clothing is recommended along with eye wash fountain and safety shower in the working area.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol / spray applications may require additional precautions.

Section 9: Physical and Chemical Properties

Physical State and Appearance: Liquid

Colour: Pale yellow to light brown

pH: Not available

Odour: Rich sweet, woody, warm balsamic

Specific Gravity: 0.940 at 20°C

Refractive Index: 1.511 at 20°C

Optical Rotation: 23.44 at 20°C

Boiling Point: Not available

Melting Point: Not available

Acid value: 1.681 at 20°C

Ester Value: 56.122 at 20°C

Ester Value after Acetylation: Not available

Flash Point: >100°C

Flammability: combustible liquid

Vapour Pressure: Not available

Vapour Density: Not available

Ionicity (in Water): Not available

Solubility: Soluble in alcohol and oils

Solubility in Water: Insoluble

Section 10: Stability and Reactivity

Stability: Chemically stable.

This material presents no significant reactivity hazard.

Conditions of Instability: Not established.

Polymerization: Will not occur.

Flammability: Combustible Liquid.

Special remarks on Corrosivity: Not available.

Special remarks on Reactivity: Not available.

Hazardous Combustion or Decomposition Products: Carbon monoxide and unidentified organic compounds may be formed during combustion.

Conditions to Avoid: Avoid sparks, flame and excessive heat.

Materials to Avoid: Strong oxidizing agents.

Section 11: Toxicological Information



Routes of Entry: Eye contact, inhalation, ingestion and skin contact.

Acute Oral Toxicity (LD₅₀): Low order toxicity causing irritation of the stomach and intestines which results in nausea and vomiting.

Acute Dermal Toxicity (LD₅₀): repeated or prolonged contact can cause redness, irritation and scaling of skin (dermatitis). Adverse skin effects should be prevented by normal care and personal hygiene.

Acute Inhalation Toxicity (LC₅₀): Inhalation of high concentrations of vapour may result in irritation of eyes, nose, throat, headache, nausea, and dizziness.

Chronic Effects: May cause allergic reaction on skin

Short Term Toxicity: Not identified.

Long Term Toxicity: Not identified

Exposure Limits: Not identified.

Human Exposure Tests: Not identified.

Mutagenic Effects: Not identified.

Reproductive Effects: Not identified.

Sensitisation: Not identified.

Section 12: Ecological Information

Eco-toxicity: Toxic to aquatic organism may cause long-term adverse effects in the aquatic environment. Avoid pollution to ground, surface or underground water bodies.

Mobility: Low mobility in soil.

Bio-accumulative Potential: Not established.

Special Remarks on the Products of Biodegradation: Low persistent level and readily biodegradable.

Bio-accumulative Potential: Not established.

Other Adverse Effects: Not established.

Section 13: Disposal Considerations

Waste Disposal: Place material or absorbent into sealed containers and dispose of in accordance with current applicable laws and regulations. Do not use empty containers.

Contaminated Packaging: Dispose of in accordance with current applicable laws and regulations. Refer to local authority advice.

Empty Container Disposal: Empty containers can have residues, gases and mists. Use the proper waste disposal methods and procedures for empty containers as well.

Section 14: Transport Information

Transportation: No special transport required. Not to be transported with explosives, flammable Gases (when individual container exceed 500 litres), toxic gases, spontaneously combustible substances, oxidising agents, organic peroxides, radioactive substances and foodstuffs.

UN Number: 3082

Proper Shipping Name: Liquid aromatic extract.

Environmental Hazards: This is an environmentally hazardous substance.

Packing Group: III.

Road: Class 3.

Rail: Not allocated.

Sea: IMDG 3.

Section 15: Regulatory Information

Federal and State Regulations: Not available

Other Regulations: Not available.

Hazards: Flammable.

Symbols: Xn, Xi and F.

Risk Phrases:

R10: Flammable.

R22: Harmful if swallowed.

R36/37/38: Irritating to eyes, respiratory system, skin

Safety Phrases:

S20/23: when using do not eat, drink, inhale

S24/25: avoid contact with skin, eye

Protective Equipment: Gloves, Lab coat, Vapour respirator (Use approved/certified respirator or equivalent). Wear appropriate respirator when ventilation is inadequate and use Splash goggles.

Section 16: Other Information

Sources: The International Cosmetic Ingredient Dictionary and Handbook; IATA Dangerous Goods Regulations, HMIS Standard.

Other Special Considerations: Not available.

Created:

Last Updated:

Disclaimer:

The information in this safety data sheet is correct to the best of our knowledge. We do not accept liability for loss, injury or damage that may result from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

Please ensure that this safety data sheet is passed to the appropriate person(s) in your company, who is capable of acting on the information.

Shipper:

Signature: _____

Material Safety Data Sheet (MSDS) of Himalayan Soti Essential Oil

Section 1: Product and Responsible Organization Identification

Product Name: Himalayan soti Essential Oil

Common Name: Himalayan soti oil

Botanical Name: *Cymbopogon* sp.

Synonym: Not available

Other Name: Not available

Australian AICS Name: Not allocated

USA INCI Name: Not allocated

EU INCI Name: Not allocated

Contact Information:

Manufacturer/Supplier:

Street address/PO Box:

Place/Country:

Tel:

Emergency Tel:

E-mail:

Section 2: Hazards Identification

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS classification]

Not a SUSMP Scheduled Poison

Flammable: Combustible liquid, produces oxides of carbon when burning.

Xi: Irritant

Others: Not identified.



Section 3: Composition and Information on Ingredients

CAS No.: Not available

EINECS No.: Not available

FEMA: Not available

NAFTA: Not available

REACH Registration No.: Not Available

% by Weight: 100

Contents:

Country of Origin: Nepal

Section 4: First Aid Measures

1. Eye Contact: Do not try to remove any contact lenses unless trained and immediately flush affected eye with plenty of water for at least 15 minutes ensuring irrigation under eyelids and get medical attention.

2. Skin Contact: Remove contaminated clothing and shoes. Wash clothes and shoes before reuse. Immediately flush skin with plenty of water and soap for 15 minutes and get medical attention.

3. Inhalation: Try to get fresh air as quickly as possible, if not breathing give artificial respiration, if breathing is difficult provide oxygen and get medical attention.

4. Ingestion: Do not induce vomiting unless directed to do so by medical personnel. Drink water slowly as much as casualty can comfortably drink in conscious state to dilute. Never give anything by mouth to an unconscious person. Never give anything to a person showing signs of reduced awareness or is being slowly unconscious. Contact physician or local poison centre immediately. If vomiting occurs, lean patient forward to maintain open airway and prevent aspiration.

5. Advice to Doctor: Treat symptomatically; note the nature of this product.

Section 5: Fire Fighting Measures

Products of Combustion: Oxides of carbon.

Fire Hazards in Presence of Various Substances: Not available.

Special Remarks on Fire Hazards: Not identified.

Protective Equipment: Self-contained breathing apparatus and protective clothing should be worn when fighting fires involving essential oils or chemicals.

Extinguishing Media: Carbon dioxide, dry chemical or foam. Closed containers may build up pressure at elevated temperature.

Special Procedures: Determine the need to evacuate or isolate the area according to your local emergency plan.

Unsuitable Extinguishing Products: Water spray; Others not established.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill: Keep away this combustible material from heat and source of ignition. Stop the leak if it can be done without risk. Finish cleaning by spreading water on the contaminated surface and allow evacuating through the sanitary system.

Personal Protection: Use of self-contained breathing apparatus is recommended for any major chemical spill. Refer also to section 8.

Safety Precautions: Eliminate all ignition sources. Ventilate the area. Determine the need to evacuate or isolate the area according to your local emergency plan.

Environmental Protection: Keep away from drains, surface and ground water. Report spills to appropriate authorities if required.

Methods of Cleaning/Disposal: Contain spill and recover free product. Absorb remainder on vermiculite or other suitable absorbent material. Wipe small spills with cloth. Clean with hot water and detergent. Refer also to Section 13 for disposal procedures.

Section 7: Handling and Storage

Handling and Precautions: Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/vapour/spray. Wear suitable protective clothing and maintain good personal hygiene practices. Wash hand after any contact with the container. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

Storage: Keep in a cool, well-ventilated area protected from light and extreme heat. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition. Store in stainless steel drums or aluminum containers or HDPE containers. For short term storage only steel drums lined with epoxy phenolic can be used.

Specific Procedures: Protect against electrostatic charges; Others not established.

Section 8: Exposure Controls/Personal Protection

Exposure Limits: There is a blanket recommendation of 10 mg/m³ for inspirable dusts or mists when limits have not otherwise been established.

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective threshold limit value. Ensure that eye wash stations and safety showers are proximal to the work-station location.

Personal Protection: Splash goggles. Lab coat. Vapour respirator. Be sure to use an approved/certified respirator or equivalent. Use gloves.

Personal Protection in case of a Large Spill: Splash goggles. Full suit. Vapour respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist before handling this product in case of large spill.

Respiratory Protection: Not generally required. Used approved/certified respirator in confined areas or if ventilation is inadequate.

Hand Protection: Use of chemical resistant gloves is recommended.

Eye Protection: Use of goggles or face shield is recommended.

Protective Clothing and Equipment: Use of chemical resistance clothing is recommended along with eye wash fountain and safety shower in the working area.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol / spray applications may require additional precautions.

Section 9: Physical and Chemical Properties

Physical State and Appearance: Liquid

Colour: Pale yellow

pH: Not available

Odour: Characteristic odour

Specific Gravity: 0.9215 at 20°C

Refractive Index: 1.481 at 20°C

Optical Rotation: 23.06° at 20°C

Boiling Point: Not available

Melting Point: Not available

Acid Value: 2.345 at 20°C

Ester Value: 14.645 at 20°C

Ester Value after Acetylation: Not available

Flash Point: 49°C

Flammability: Combustible liquid

Vapour Pressure: Not available

Vapour Density: Not available

Ionicity (in Water): Not Available

Solubility: Soluble in alcohol and oils

Solubility in Water: Insoluble

Section 10: Stability and Reactivity

Stability: Chemically stable. This material presents no significant reactivity hazard.

Conditions of Instability: Not established.

Polymerization: Will not occur.

Flammability: Combustible liquid.

Special remarks on Corrosivity: Not available.

Special remarks on Reactivity: Not available.

Hazardous Combustion or Decomposition Products: Carbon monoxide and unidentified organic compounds may be formed during combustion.

Conditions to Avoid: Avoid sparks, flame and excessive heat.

Materials to Avoid: Strong oxidizing agents.

Section 11: Toxicological Information

Routes of Entry: Eye contact, inhalation, ingestion and skin contact.

Acute Oral Toxicity (LD₅₀): Low order toxicity causing irritation of the stomach and intestines which results in nausea and vomiting.

Acute Dermal Toxicity (LD₅₀): Repeated or prolonged contact can cause redness, irritation and scaling of skin (dermatitis). Adverse skin effects should be prevented by normal care and personal hygiene.

Acute Inhalation Toxicity (LC₅₀): Inhalation of high concentrations of vapour may result in irritation of eyes, nose, throat, headache, nausea, and dizziness.

Chronic Effects: May cause allergic reaction on skin

Short Term Toxicity: Not identified.

Long Term Toxicity: Not identified.

Exposure Limits: Not identified.

Human Exposure Tests: Not identified.

Mutagenic Effects: Not identified.

Reproductive Effects: Not identified.

Sensitisation: Not identified.



Section 12: Ecological Information

Eco-toxicity: Toxic to aquatic organism; may cause long-term adverse effects in the aquatic environment. Avoid pollution to ground, surface or underground water bodies.

Mobility: Low mobility in soil.

Bio-accumulative Potential: Not established.

Special Remarks on the Products of Biodegradation: Low persistent level and readily biodegradable.

Bio-accumulative Potential: Not established.

Other Adverse Effects: Not established.

Section 13: Disposal Considerations

Waste Disposal: Place material or absorbent into sealed containers and dispose of in accordance with current applicable laws and regulations. Do not use empty containers.

Contaminated Packaging: Dispose of in accordance with current applicable laws and regulations. Refer to local authority advice.

Empty Container Disposal: Empty containers can have residues, gases and mists. Use the proper waste disposal methods and procedures for empty containers as well.

Section 14: Transport Information

Transportation: No special transport required. Not to be transported with explosives, flammable gases (when individual container exceed 500 litres), toxic gases, spontaneously combustible substances, oxidising agents, organic peroxides, radioactive substances and foodstuffs.

UN Number: 1169.

Proper Shipping Name: Liquid aromatic extract.

Environmental Hazards: This is an environmentally hazardous substance.

Packing Group: III.

Road: Class 3.

Rail: Not allocated.

Sea: IMDG 3.

Air: IATA 3.

Section 15: Regulatory Information

Federal and State Regulations: Not available

Other Regulations: Not available.

Hazards: Flammable.

Symbols: Xn, Xi and F.

Risk Phrases:

R10: Flammable.

R22: Harmful if swallowed.

R36/37/38: Irritating to eyes, respiratory system, skin.

Safety Phrases:

S20/23: when using do not eat, drink, inhale

S24/25: avoid contact with skin, eye

Protective Equipment: Gloves, Lab coat, Vapour respirator (Use approved/certified respirator or equivalent).
Wear appropriate respirator when ventilation is inadequate and use Splash goggles.

Section 16: Other Information

Sources: The International Cosmetic Ingredient Dictionary and Handbook; IATA Dangerous Goods Regulations, HMIS Standard.

Other Special Considerations: Not available.

Created:

Last Updated:

Disclaimer:

The information in this safety data sheet is correct to the best of our knowledge. We do not accept liability for loss, injury or damage that may result from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. Please ensure that this safety data sheet is passed to the appropriate person(s) in your company, who is capable of acting on the information.

Shipper:

Signature: _____

Material Safety Data Sheet (MSDS) of Sil Timur Essential Oil

Section 1: Product and Responsible Organization Identification

Product Name: Sil Timur Essential Oil
Common Name: Lindera Oil
Botanical Name: *Lindera neesiana* Kurz
Synonym: Not available
Other Name: Not available
Australian AICS Name: Not allocated
USA INCI Name: Not allocated
EU INCI Name: Not allocated

Contact Information:
Manufacturer/Supplier:
Street address/PO Box:
Place/Country:
Tel:
Emergency Tel:
E-mail:

Section 2: Hazards Identification

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS classification]

Not a SUSMP Scheduled Poison

Flammable: Combustible liquid, produces oxides of carbon when burning.

Xi: Irritant

Others: None identified.



Section 3: Composition and Information on Ingredients

CAS No.: Not available

EINECS No.: Not available

FEMA: Not available

NAFTA: Not available

REACH Registration No.: Not available

% by Weight: 100

Contents: ζ -citral, ϵ -citral, Eucalyptol, α -pinene, citronellal, β -pinene

Country of Origin: Nepal

Section 4: First Aid Measures

- 1. Eye Contact:** Do not try to remove any contact lenses unless trained and immediately flush affected eye with plenty of water for at least 15 minutes ensuring irrigation under eyelids and get medical attention.
- 2. Skin Contact:** Remove contaminated clothing and shoes. Wash clothes and shoes before reuse. Immediately flush skin with plenty of water and soap for 15 minutes and get medical attention.
- 3. Inhalation:** Try to get fresh air as quickly as possible, if not breathing give artificial respiration, if breathing is difficult provide oxygen and get medical attention.
- 4. Ingestion:** Do not induce vomiting unless directed to do so by medical personnel. Drink water slowly as much as casualty can comfortably drink in conscious state to dilute. Never give anything by mouth to an unconscious person. Never give anything to a person showing signs of reduced awareness or is being slowly unconscious. Contact physician or local poison centre immediately. If vomiting occurs, lean patient forward to maintain open airway and prevent aspiration.
- 5. Advice to Doctor:** Treat symptomatically; note the nature of this product.

Section 5: Fire Fighting Measures

Products of Combustion: Oxides of carbon.

Fire Hazards in Presence of Various Substances: Not available.

Special Remarks on Fire Hazards: Not identified.

Protective Equipment: Self-contained breathing apparatus and protective clothing should be worn when fighting fires involving essential oils or chemicals.

Extinguishing Media: Carbon dioxide, dry chemical or foam. Closed containers may build up pressure at elevated temperature.

Special Procedures: Determine the need to evacuate or isolate the area according to your local emergency plan.

Unsuitable Extinguishing Products: Water spray; Others not established.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill: Keep away this combustible material from heat and source of ignition. Stop the leak if it can be done without risk. Finish cleaning by spreading water on the contaminated surface and allow evacuating through the sanitary system.

Personal Protection: Use of self-contained breathing apparatus is recommended for any major chemical spill. Refer also to section 8.

Safety Precautions: Eliminate all ignition sources. Ventilate the area. Determine the need to evacuate or isolate the area according to your local emergency plan.

Environmental Protection: Keep away from drains, surface and ground water. Report spills to appropriate authorities if required.

Methods of Cleaning/Disposal: Contain spill and recover free product. Absorb remainder on vermiculite or other suitable absorbent material. Wipe small spills with cloth. Clean with hot water and detergent. Refer also to Section 13 for disposal procedures.

Section 7: Handling and Storage

Handling and Precautions: Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/vapour/spray. Wear suitable protective clothing and maintain good personal hygiene practices. Wash hand after any contact with the container. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

Storage: Keep in a cool, well-ventilated area protected from light and extreme heat. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition. Store in stainless steel drums or aluminum containers or HDPE containers. For short term storage only steel drums lined with epoxy phenolic can be used.

Specific Procedures: Protect against electrostatic charges; Others not established.

Section 8: Exposure Controls/Personal Protection

Exposure Limits: There is a blanket recommendation of 10 mg/m³ for inspirable dusts or mists when limits have not otherwise been established.

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective threshold limit value. Ensure that eye wash stations and safety showers are proximal to the work-station location.

Personal Protection: Splash goggles. Lab coat. Vapour respirator. Be sure to use an approved/certified respirator or equivalent. Use gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Vapour respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist before handling this product in case of large spill.

Respiratory Protection: Not generally required. Used approved/certified respirator in confined areas or if ventilation is inadequate.

Hand Protection: Use of chemical resistant gloves is recommended.

Eye Protection: Use of goggles or face shield is recommended.

Protective Clothing and Equipment: Use of chemical resistance clothing is recommended along with eye wash fountain and safety shower in the working area.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol / spray applications may require additional precautions.

Section 9: Physical and Chemical Properties

Physical State and Appearance: Liquid

Colour: Pale yellow

pH: Not available

Odour: Characteristic odour, Lemony

Specific Gravity: 0.9215 at 20°C

Refractive Index: 1.480 at 20°C

Optical Rotation: -0.02° at 20°C

Boiling Point: Not available

Melting Point: Not available

Acid value: 1.48 at 20°C

Ester Value: 5.29 at 20°C

Ester Value after Acetylation: Not available

Flash Point: 71°C

Flammability: Combustible liquid

Vapour Pressure: Not available

Vapour Density: Not available

Ionicity (in Water): Not available

Solubility: Soluble in alcohol and oils

Solubility in Water: Insoluble

Section 10: Stability and Reactivity

Stability: Chemically stable.

This material presents no significant reactivity hazard.

Conditions of Instability: Not established.

Polymerization: Will not occur.

Flammability: Combustible liquid.

Special remarks on Corrosivity: Not available.

Special remarks on Reactivity: Not available.

Hazardous Combustion or Decomposition Products: Carbon monoxide and unidentified organic compounds may be formed during combustion.

Conditions to Avoid: Avoid sparks, flame and excessive heat.

Materials to Avoid: Strong oxidizing agents.

Section 11: Toxicological Information

Routes of Entry: Eye contact, inhalation, ingestion and skin contact.

Acute Oral Toxicity (LD₅₀): Low order toxicity causing irritation of the stomach and intestines which results in nausea and vomiting.

Acute Dermal Toxicity (LD₅₀): Repeated or prolonged contact can cause redness, irritation and scaling of skin (dermatitis). Adverse skin effects should be prevented by normal care and personal hygiene.

Acute Inhalation Toxicity (LC₅₀): Inhalation of high concentrations of vapour may result in irritation of eyes, nose, throat, headache, nausea, and dizziness.

Chronic Effects: May cause allergic reaction on skin

Short Term Toxicity: Not identified.

Long Term Toxicity: Not identified

Exposure Limits: Not identified.

Human Exposure Tests: Not identified.

Mutagenic Effects: Not identified.

Reproductive Effects: Not identified.

Sensitisation: Not identified.



Section 12: Ecological Information

Eco-toxicity: Not established, avoid pollution to soil and water bodies.

Mobility: Low mobility in soil.

Bio-accumulative Potential: Not established.

Special Remarks on the Products of Biodegradation: Low persistent level and readily biodegradable.

Bio-accumulative Potential: Not established.

Other Adverse Effects: Not established.

Section 13: Disposal Considerations

Waste Disposal: Place material or absorbent into sealed containers and dispose of in accordance with current applicable laws and regulations. Do not use empty containers.

Contaminated Packaging: Dispose of in accordance with current applicable laws and regulations. Refer to local authority advice.

Empty Container Disposal: Empty containers can have residues, gases and mists. Use the proper Waste Disposal Methods and Procedures for Empty Containers as well.

Section 14: Transport Information

Transportation: No special transport required. Not to be transported with explosives, flammable gases (when individual container exceed 500 litres), toxic gases, spontaneously combustible substances, oxidising agents, organic peroxides, radioactive substances and foodstuffs.

UN Number: 1169.

Proper Shipping Name: Liquid aromatic extract.

Environmental Hazards: This is an environmentally hazardous substance.

Packing Group: III.

Road: Class 3.

Rail: Not allocated.

Sea: IMDG 3.

Air: IATA 3.

Section 15: Regulatory Information

Federal and State Regulations: Not available

Other Regulations: Not available.

Hazards: Flammable.

Symbols: Xn, Xi and F.

Risk Phrases:

R10: Flammable.

R22: Harmful if swallowed.

R36/37/38: Irritating to eyes, respiratory system, skin

Safety Phrases:

S20/23: when using do not eat, drink, inhale

S24/25: avoid contact with skin, eye

Protective Equipment: Gloves, Lab coat, Vapour respirator (Use approved/certified respirator or equivalent). Wear appropriate respirator when ventilation is inadequate and use Splash goggles.

Section 16: Other Information

Sources: The International Cosmetic Ingredient Dictionary and Handbook; IATA Dangerous Goods Regulations, HMIS Standard.

Other Special Considerations: Not available.

Created:

Last Updated:

Disclaimer:

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Please ensure that this safety data sheet is passed to the appropriate person(s) in your company, who is capable of acting on the information.

Shipper:

Signature: _____

Material Safety Data Sheet (MSDS) of Turmeric leaf Essential Oil

Section 1: Product and Responsible Organization Identification

Product Name: Turmeric leaf Essential Oil

Common Name: Turmeric leaf oil

Botanical Name: *Curcuma longa* L.

Synonym: Not available

Other Name: Not available

Australian AICS Name: Not allocated

USA INCI Name: Turmeric leaf root oil.

EU INCI Name: Not available

Contact Information:

Manufacturer/Supplier:

Street address/PO Box:

Place/Country:

Tel:

Emergency Tel:

E-mail:

Section 2: Hazards Identification

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS classification]

Not a SUSMP Scheduled Poison

Flammable: Combustible liquid, produces oxides of carbon when burning.

Xi: Irritant

Others: Not identified.



Section 3: Composition and Information on Ingredients

CAS No.: 84775-52-0

ECHA EC No.: 283-882-1

FEMA: Not available

NAFTA: Not available

REACH Registration No.: Not Available

% by Weight: 100

Contents: Zingiberene, curcumene, α & β -turmerone

Country of Origin: Nepal

Section 4: First Aid Measures

1. Eye Contact: Do not try to remove any contact lenses unless trained and immediately flush affected eye with plenty of water for at least 15 minutes ensuring irrigation under eyelids and get medical attention.

2. Skin Contact: Remove contaminated clothing and shoes. Wash clothes and shoes before reuse. Immediately flush skin with plenty of water and soap for 15 minutes and get medical attention.

3. Inhalation: Try to get fresh air as quickly as possible, if not breathing give artificial respiration, if breathing is difficult provide oxygen and get medical attention.

4. Ingestion: Do not induce vomiting unless directed to do so by medical personnel. Drink water slowly as much as casualty can comfortably drink in conscious state to dilute. Never give anything by mouth to an unconscious person. Never give anything to a person showing signs of reduced awareness or is being slowly unconscious. Contact physician or local poison centre immediately. If vomiting occurs, lean patient forward to maintain open airway and prevent aspiration.

5. Advice to Doctor: Treat symptomatically; Note the nature of this product.

Section 5: Fire Fighting Measures

Products of Combustion: Oxides of carbon.

Fire Hazards in Presence of Various Substances: Not available.

Special Remarks on Fire Hazards: None identified.

Protective Equipment: Self-contained breathing apparatus and protective clothing should be worn when fighting fires involving essential oils or chemicals.

Extinguishing Media: Carbon dioxide, dry chemical or foam. Closed containers may build up pressure at elevated temperature.

Special Procedures: Determine the need to evacuate or isolate the area according to your local emergency plan.

Unsuitable Extinguishing Products: Water spray; Others not established.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill: Keep away this combustible material from heat and source of ignition. Stop the leak if it can be done without risk. Finish cleaning by spreading water on the contaminated surface and allow evacuating through the sanitary system.

Personal Protection: Use of self-contained breathing apparatus is recommended for any major chemical spill. Refer also to section 8.

Safety Precautions: Eliminate all ignition sources. Ventilate the area. Determine the need to evacuate or isolate the area according to your local emergency plan.

Environmental Protection: Keep away from drains, surface and ground water. Report spills to appropriate authorities if required.

Methods of Cleaning/Disposal: Contain spill and recover free product. Absorb remainder on vermiculite or other suitable absorbent material. Wipe small spills with cloth. Clean with hot water and detergent. Refer also to Section 13 for disposal procedures.

Section 7: Handling and Storage

Handling and Precautions: Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/vapour/spray. Wear suitable protective clothing and maintain good personal hygiene practices. Wash hand after any contact with the container. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

Storage: Keep in a cool, well-ventilated area protected from light and extreme heat. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition. Store in stainless steel drums or aluminum containers or HDPE containers. For short term storage only steel drums lined with epoxy phenolic can be used.

Specific Procedures: Protect against electrostatic charges; Others not established.

Section 8: Exposure Controls/Personal Protection

Exposure Limits: There is a blanket recommendation of 10 mg/m³ for inspirable dusts or mists when limits have not otherwise been established.

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective threshold limit value. Ensure that eye wash stations and safety showers are proximal to the work-station location.

Personal Protection: Splash goggles. Lab coat. Vapour respirator. Be sure to use an approved/certified respirator or equivalent. Use gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Vapour respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist before handling this product in case of large spill.

Respiratory Protection: Not generally required. Used approved/certified respirator in confined areas or if ventilation is inadequate.

Hand Protection: Use of chemical resistant gloves is recommended.

Eye Protection: Use of goggles or face shield is recommended.

Protective Clothing and Equipment: Use of chemical resistance clothing is recommended along with eye wash fountain and safety shower in the working area.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol / spray applications may require additional precautions.

Section 9: Physical and Chemical Properties

Physical State and Appearance: Liquid

Colour: Colorless to pale yellow

pH: Not available

Odour: Characteristic; spicy odour

Specific Gravity: 0.855 at 20°C

Refractive Index: 1.476 at 20°C

Optical Rotation: 38.83° at 20°C

Boiling Point: Not available

Melting Point: Not available

Acid value: 0.203 at 20°C

Ester Value: 8.85 at 20°C

Ester Value after Acetylation: Not available

Flash Point: 51°C

Flammability: Combustible liquid

Vapour Pressure: Not available

Vapour Density: Not available

Ionicity (in Water): Not available

Solubility: Soluble in alcohol and oils

Solubility in Water: Insoluble

Section 10: Stability and Reactivity

Stability: Chemically stable.

This material presents no significant reactivity hazard.

Conditions of Instability: Not established.

Polymerization: Will not occur.

Flammability: Combustible liquid.

Special remarks on Corrosivity: Not available.

Special remarks on Reactivity: Not available.

Hazardous Combustion or Decomposition Products: Carbon monoxide and unidentified organic compounds may be formed during combustion.

Conditions to Avoid: Avoid sparks, flame and excessive heat.

Materials to Avoid: Strong oxidizing agents.

Section 11: Toxicological Information

Routes of Entry: Eye contact, inhalation, ingestion and skin contact.

Acute Oral Toxicity (LD₅₀): Low order toxicity causing irritation of the stomach and intestines which results in nausea and vomiting.

Acute Dermal Toxicity (LD₅₀): Repeated or prolonged contact can cause redness, irritation and scaling of skin (dermatitis). Adverse skin effects should be prevented by normal care and personal hygiene.

Acute Inhalation Toxicity (LC₅₀): Inhalation of high concentrations of vapour may result in irritation of eyes, nose, throat, headache, nausea, and dizziness.

Chronic Effects: May cause allergic reaction on skin

Short Term Toxicity: Not identified.

Long Term Toxicity: Not identified

Exposure Limits: Not identified.

Human Exposure Tests: Not identified.

Mutagenic Effects: Not identified.

Reproductive Effects: Not identified.

Sensitisation: Not identified.



Section 12: Ecological Information

Eco-toxicity: Toxic to aquatic organism may cause long-term adverse effects in the aquatic environment. Avoid pollution to ground, surface or underground water bodies.

Mobility: Low mobility in soil.

Bio-accumulative Potential: Not established.

Special Remarks on the Products of Biodegradation: Low persistent level and readily biodegradable.

Bio-accumulative Potential: Not established.

Other Adverse Effects: Not established.

Section 13: Disposal Considerations

Waste Disposal: Place material or absorbent into sealed containers and dispose of in accordance with current applicable laws and regulations. Do not use empty containers.

Contaminated Packaging: Dispose of in accordance with current applicable laws and regulations. Refer to local authority advice.

Empty Container Disposal: Empty containers can have residues, gases and mists. Use the Proper Waste Disposal Methods and Procedures for Empty Containers as well.

Section 14: Transport Information

Transportation: No special transport required. Not to be transported with explosives, flammable gases (when individual container exceed 500 litres), toxic gases, spontaneously combustible substances, oxidising agents, organic peroxides, radioactive substances and foodstuffs.

UN Number: 1169.

Proper Shipping Name: Liquid aromatic extract.

Environmental Hazards: This is an environmentally hazardous substance.

Packing Group: III.

Road: Class 3.

Rail: Not allocated.

Sea: IMDG 3.

Air: IATA 3.

Section 15: Regulatory Information

Federal and State Regulations:

Other Regulations: Not available.

Hazards: Flammable.

Symbols: Xn, Xi and F.

Risk Phrases:

R10: Flammable.

R22: Harmful if swallowed.

R36/37/38: Irritating to eyes, respiratory system, skin

Safety Phrases:

S20/23: when using do not eat, drink, inhale

S24/25: avoid contact with skin, eye

Protective Equipment: Gloves, Lab coat, Vapour respirator (Use approved/certified respirator or equivalent).

Wear appropriate respirator when ventilation is inadequate and use Splash goggles.

Section 16: Other Information

Sources: The International Cosmetic Ingredient Dictionary and Handbook; IATA Dangerous Goods Regulations, HMIS Standard.

Other Special Considerations: Not available.

Created:

Last Updated:

Disclaimer:

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Please ensure that this safety data sheet is passed to the appropriate person(s) in your company, who is capable of acting on the information.

Shipper:

Signature: _____

References

1. Annual Report (2037-2042), Department of Forestry and Plant Research
2. Annual Report (2043-2047), Department of Forestry and Plant Research
3. Annual Report (2058-2067), Department of Plant Resources
4. Commission Regulation (EU) No 453/2010 of 20 May 2010 Amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) (O.J. L133 31.05.2010, p1-43)
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