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MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Product identifiers

Product Name : Farnesol, 95% Product Code: F 1210 CAS-No.: 4602-84-0

1.2. Relevant identified uses of the substance or mixture and uses advised against Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet
Company identification
OTTO CHEMIE PVT LTD
101, Aarkay Ruby Industrial Estate(1B), Opp Shree Narayan Industrial Estate, Chinchpada, Vasai East, Waliv, Maharashtra 401208.
Email info@ottokemi.com

1.4. Emergency telephone number Phone no. : + 91 22 2207 0099 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008 Skin irritation (Category 2), H315 Skin sensitization (Sub-category 1B), H317 Short-term (acute) aquatic hazard (Category 1), H400 Long-term (chronic) aquatic hazard (Category 1), H410 For the full text of the H-Statements mentioned in this Section, see Section 16. 2.2 Label elements Labelling according Regulation (EC) No 1272/2008 Pictogram Signal Word Warning Hazard statement(s) H315 Causes skin irritation. H317 May cause an allergic skin reaction. H410 Very toxic to aquatic life with long lasting effects. Precautionary statement(s) Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. P261 P264 Wash skin thoroughly after handling. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves. P302 + P352 IF ON SKIN: Wash with plenty of water. Supplemental Hazard none Statements Reduced Labeling (<= 125 ml) Pictogram Signal Word Warning Hazard statement(s) H317 May cause an allergic skin reaction. Precautionary statement(s) Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. P261 Contaminated work clothing should not be allowed out of the workplace. P272 Wear protective gloves. P280 IF ON SKIN: Wash with plenty of water. P302 + P352 Supplemental Hazard none Statements 2.3 Other hazards

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This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances Synonyms : 3,7,11-Trimethyl-2,6,10-dodecatrien-1-ol Formula : C15H26O Molecular weight : 222,37 g/mol CAS-No. : 4602-84-0 EC-No. : 225-004-1 Classification

Component	Classification	Concentration
Farnesol		
CAS-No. 4602-84-0	Skin Irrit. 2; Skin Sens.	<= 100 %
EC-No. 225-004-1	1B; Aquatic Acute 1;	
	Aquatic Chronic 1; H315,	
	H317, H400, H410	
	M-Factor - Aquatic Acute:	
	1 - Aquatic Chronic: 1	

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with

water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a

physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section

2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Carbon dioxide (CO2) Foam Dry powder
Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.
5.2 Special hazards arising from the substance or mixture
Carbon oxides
Combustible.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapours possible in the event of fire.
5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
5.4 Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8. 6.2 Environmental precautions Do not let product enter drains. 6.3 Methods and materials for containment and cleaning up Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area. 6.4 Reference to other sections For disposal see section 13. **SECTION 7: Handling and storage** 7.1 Precautions for safe handling For precautions see section 2.2. 7.2 Conditions for safe storage, including any incompatibilities Storage conditions Tightly closed. Light sensitive. Storage class Storage class (TRGS 510): 10: Combustible liquids 7.3 Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated **SECTION 8: Exposure controls/personal protection** 8.1 Control parameters Ingredients with workplace control parameters 8.2 Exposure controls Personal protective equipment Eye/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses Skin protection This recommendation applies only to the product stated in the safety data sheet. supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: Nitrile rubber Minimum layer thickness: 0,4 mm Break through time: 480 min This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact Material: butyl-rubber Minimum layer thickness: 0,7 mm Break through time: 120 min Material tested:Butoject® (KCL 898) **Body Protection** protective clothing Respiratory protection required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to

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the used respiratory protection system. Recommended Filter type: Filter type AI The entrepeneur has to ensure that mai protective devices are carried out accord These measures have to be properly do Control of environmental exposure Do not let product enter drains.	ntenance, cleaning and testing of respiratory ding to the instructions of the producer.
SECTION 9: Physical and chemical properties 9.1 Information on basic physical and chemical pro- a) Physical state b) Color c) Odor d) Melting point/freezing point Guideline 102 e) Initial boiling point and boiling range f) Flammability (solid,	operties clear, liquid colorless pleasant Melting point/freezing point: < -100 °C at 997 hPa - OECD Test 149 °C at 5 hPa - lit. No data available
gas) g) Upper/lower flammability or explosive limits h) Flash point i) Autoignition temperature j) Decomposition temperature k) pH l) Viscosity m) Water solubility n) Partition coefficient: n-octanol/water Potential bioaccumulation o) Vapor pressure p) Density Relative density q) Relative vapor density r) Particle characteristics s) Explosive properties t) Oxidizing properties 9.2 Other safety information Surface tension 40,44 mN/m at 20 °C - OECD Test Guideline 115	No data available 155 °C - closed cup - ISO 2719 255 °C at 1.011,9 - 1.013,9 hPa - DIN 51794 No data available No data available Viscosity, kinematic: No data available O,00654 g/l at 20 °C - OECD Test Guideline 105 log Pow: 4,6 - 4,78 at 22,3 °C - OECD Test Guideline 117 - 0,17 hPa at 25 °C - OECD Test Guideline 104 0,886 g/cm3 at 20 °C - Iit. 0,888 at 20 °C - OECD Test Guideline 109 No data available No data available No data available
SECTION 10: Stability and reactivity 10.1 Reactivity Forms explosive mixtures with air on intense heati A range from approx. 15 Kelvin below the flash po 10.2 Chemical stability The product is chemically stable under standard a 10.3 Possibility of hazardous reactions Violent reactions possible with: strong oxidising agents 10.4 Conditions to avoid Strong heating. 10.5 Incompatible materials No data available	int is to be rated as critical.

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10.6 Hazardous decomposition products In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals: Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg Inhalation LC50 Rat: > 50mg/L. Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH. Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant). Special Remarks on Toxicity to Animals: Not available. Special Remarks on Chronic Effects on Humans: Not available. Special Remarks on other Toxic Effects on Humans: Not available. **SECTION 12: Ecological information** 12.1 Toxicity Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 1,43 mg/l - 96 h Remarks: (ECHA) Toxicity to daphnia and other aquatic invertebrates semi-static test EC50 - Daphnia magna (Water flea) - 0,568 mg/l 48 h (OECD Test Guideline 202) semi-static test NOEC - Daphnia magna (Water flea) - 0,532 mg/l 48 h (OECD Test Guideline 202) Toxicity to algae static test EC50 - Pseudokirchneriella subcapitata (green algae) 1,49 mg/l - 72 h (OECD Test Guideline 201) static test NOEC - Pseudokirchneriella subcapitata (green algae) -0,083 mg/l - 72 h (OECD Test Guideline 201) Toxicity to bacteria static test EC50 - activated sludge - > 1.000 mg/l - 3 h (OECD Test Guideline 209) 12.2 Persistence and degradability Biodegradability aerobic - Exposure time 28 d Result: 70 % - Readily biodegradable. (OECD Test Guideline 301F) 12.3 Bioaccumulative potential No data available 12.4 Mobility in soil No data available 12.5 Results of PBT and vPvB assessment This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. 12.6 Endocrine disrupting properties Product: Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. 12.7 Other adverse effects No data available

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SECTION 13: Disposal considerations

13.1 Waste treatment methods No data available

SECTION 14: Transport information

14.1 UN numbe	ſ						
ADR/RID: 3082		IMDG: 3082	IATA: 3082				
14.2 UN proper							
ADR/RID:	ENVIRONMENTALLY HAZA (Farnesol)	RDOUS SUBSTANCE, LIQUID, N.O.S. ((Farnesol)				
IMDG:	ENVIRONMENTALLY HAZA (Farnesol)	ÈNVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Farnesol) (Farnesol)					
IATA:	Environmentally hazardous s	Environmentally hazardous substance, liquid, n.o.s. (Farnesol) (Farnesol)					
14.3 Transport	hazard class(es)		,				
ADR/RID: 9		IMDG: 9	IATA: 9				
14.4 Packaging	group						
ADR/RID: III		IMDG: III	IATA: III				
14.5 Environme	ental hazards						
ADR/RID: yes		IMDG Marine pollutant: yes	IATA: yes				
	ecautions for user						
Tunnel restriction							
Further information							
Packages small	er than or equal to 5 kg / L , not d	angerous goods of Class 9					
	Regulatory information						
	alth and environmental regulations	s/legislation specific for the					
substance or m							
This material sa 1907/2006.	fety data sheet complies with the	requirements of Regulation (EC) No.					
National legislat	tion						
Seveso III: Dire	ctive 2012/18/EU of the European						
Parliament and	of the Council on the control of	Ver Chi					
major-accident	hazards involving dangerous						
substances.							
: ENVIRONMEN	NTAL HAZARDS						
Other regulation							
Take note of Di	r 94/33/EC on the protection of yo	ung people at work.					
	Safety Assessment						
For this product	a chemical safety assessment wa	as not carried out					
Section 16: C	ther Information						

Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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