



VVF (India) Limited

VVF (India) Limited

Address: 109, Sion (East), Mumbai 400 022, India
 Telephone: 91-22-40282000; Fax: 91-22-24073771
 Website: www.vvfltd.com; E-mail: oleochemical@vvfltd.com

SAFETY DATA SHEET

Product Name : Vegarol® 1216	Version: 2.00	Date: March 07, 2015
------------------------------	---------------	----------------------

1. CHEMICAL PRODUCT IDENTIFICATION	
1.1 Product Name	Vegarol® 1216
1.2 Common Chemical Name	Blend of Lauryl Myristyl alcohol, cetyl alcohol, Blend of N-dodecanol, tetra decanol and 1-hexa decanol, Fatty Alcohol C12-16
1.3 Product Code (Supplier)	Vegarol® 1216
1.4 Application of the substance / the preparation usages:	Used as a synthetic intermediate. Used in process chemical e.g. in paper and textile industries. Used in plastic/rubber - polymer processing. Used in paint, lacquers and varnishes, lubricants and adhesives. Used in antifreezes, cosmetics, pharmaceuticals and /as a surfactants. Used in cleaning/washing agents. Used as food/feeding stuff additive. Used as antistatic, emollient, emulsion stabilizing, viscosity controlling agent.
1.4 Manufacturer/Supplier:	VVF (India) Limited, 109, Sion (E) MUMBAI – 400022
1.5 Emergency contact details	+ 91-22-9619551607

2. HAZARD IDENTIFICATION	
2.1 Hazard pictograms	  GHS07 GHS09
2.2 Signal word	Warning
2.3 Hazard statements	H319 Causes serious eye irritation H400 Very toxic to aquatic life. H411 Toxic to aquatic life with long lasting effects
2.4 Precautionary statements	P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P103 Read label before use. P280 Wear protective gloves/protective clothing/eye protection/face protection. P273 Avoid release to the environment. P264 Wash thoroughly after handling. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention. P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
2.5 Human Health Hazards, Effects, and Symptoms:	
2.5.1 Ingestion	May cause slight irritation to gastrointestinal tract
2.5.2 Inhalation	No harmful effect expected at ambient temperature. Mist or vapours of the product may cause irritation to the pulmonary tract
2.5.3 Skin Contact	Causes slight irritation
2.5.4 Eye Contact	Causes mild transient irritation
2.6 Other Hazard Results of PBT	Generally not hazardous for water. This product is not PBT or vPvB.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

3.1 Chemical Name	Blend of 1-dodecanol (Lauryl Alcohol), 1-Tetra decanol (Myristyl Alcohol) and 1-Hexadecanol (Cetyl Alcohol)
-------------------	-------------------------------------------------------------------------------------------------------------

Name	CAS No.	EINECS No	% by Weight
Decan-1-ol	112-30-1	203-956-9	1 Max
N-dodecanol	112-53-8	203-982-0	65 - 71
Tetradecanol	112-72-1	204-000-3	22 - 27
Hexadecan-1-ol	36653-82-4	253-149-0	4 - 6
Octadecanol	112-92-5	204-017-6	0.5 Max

4. FIRST AID MEASURES

4.1 Ingestion	Consult a doctor immediately. Drink plenty of water. Do not induce vomiting. However, if the person is unconscious, do not provide any type of ingestion
4.2 Inhalation	Remove to fresh air immediately. In case of breathing difficulty try artificial respiration. Get medical attention as soon as possible
4.3 Skin Contact	Wash material off the skin with plenty of soap and water. If redness or itching persists, seek medical attention
4.4 Eye Contact	Wash eyes with water for at least 15 minutes. If redness or itching persists, seek medical attention

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media	
a. Suitable	Carbon dioxide, dry chemical, water fog, foam Carbon dioxide or foam
b. Not Suitable	Water
c. Special Fire Fighting Procedures	Wear self-contained breathing apparatus and protective clothing to avoid direct contact with eyes and skin. In case of high temperature or fire, use a water jet to cool the tank containing the product
5.2 Unusual Fire / Explosion Hazards	None
5.3 Hazardous Thermal Decomposition	On decomposition, the product releases Carbon dioxide, Carbon monoxide, hydrocarbons, soot, aldehydes and ketones
5.4 Protection for Fire Fighters	Self-contained breathing apparatus, protective clothing, a face mask and rubber boots

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions	No particular precautions. Observe all Standard Industry Measures
6.2 Environmental Precautions	In case of spillage, cover the spilt amount with sand or soil to absorb the product. Then, collect the sand or soil with the product absorbed into a suitable container and dispose. Prevent entry of product into drains and ground water
6.3 Clean Up Method	Cover the product with dry earth or sand so that it may be absorbed. Then, transfer into a container for disposal. Flush affected area with water

7. HANDLING AND STORAGE

7.1 Handling	Follow good hygiene and safety procedures. Avoid any direct contact with the product. Wash hands with soap and water after handling the product. Keep away from heat, strong acids and oxidising agents
7.2 Storage	Store in sealed containers in a cool and dry place. Away from source of heat.
7.3 Suitable Packing Materials	HDPE carbuoys, stainless steel tanks, Zink coated tanks or lacquer lined MS drums
7.4 Unsuitable Packing Material	Unlined MS drums



8. EXPOSURE CONTROLS / PERSONAL PROTECTION	
8.1 OSHA permissible exposure limit (PELs)	Not Listed
8.2 ACGIH threshold limit value (TLVs)	Not Listed
8.3 Respiratory System Protection	No protection required when adequate ventilation is available at room temperature. In presence of mist or vapour use self-contained NIOSH/MSHA approved respirator
8.4 Skin and Body Protection	Uniform, apron and rubber boots
8.5 Hand Protection	 Protective gloves <p>The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation Material of gloves Nitrile (0.35mm thick) or Butyl (0.5 mm thick) gloves or gloves tested to EN 374. Penetration time of glove material The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.</p>
8.6 Eye Protection	 Tightly sealed goggles

9. PHYSICAL AND CHEMICAL PROPERTIES	
9.1 Physical State	Liquid above 25 ^o C
9.2 Colour	Colourless
9.3 Odour	Characteristic fatty alcohol odour
9.4 Boiling Range	255 to 305 ^o C
9.5 Melting Range	18 to 25 ^o C
9.6 Solubility in Water	Insoluble in water
9.7 Density, Gm/ml	0.8203 at 40 ^o C
9.7 Solubility in Oil and Solvents	Not available
9.8 Vapour Density (Air = 1)	Not available
9.9 Vapour Pressure, mm of Hg	< 10 mm, at 22 ^o C
9.10 Flash Point	Approximately 137 ^o C, PMCC
9.11 Auto Ignition Temperature	Not available
9.12 Lower Explosion Limit	Not available
9.13 Upper Explosion Limit	Not available
9.14. Average Molecular Weight	193 – 200
9.15. Viscosity	~ 10 mPa.s at 38 ^o C

10 STABILITY AND REACTIVITY	
10.1 Reactivity	Data not available
10.2 Chemical Stability	Stable under normal operational conditions
10.3 Conditions to Avoid	Sources of heat, ignition and flame
10.4 Materials to Avoid	Strong acids and oxidising agents
10.5 Hazardous Polymerisation Products	None
10.6 Hazardous Decomposition Products	Carbon monoxide and carbon dioxide

11. TOXICOLOGICAL INFORMATION

**11.1 Acute Toxicity:**

Name	CAS .NO	LD 50(Oral)	LD 50(Dermal)	LC 50 (Inhalative)
N-dodecanol	112-53-8	>2000 mg/kg (rat)	1500-2000 mg/kg (rabbit)	--
Tetradecanol	112-72-1	>2000 mg/kg (rat)	5847 (rabbit)	> 0.375 mg/ L (rat)
Hexadecan-1-ol	36653-82-4	> 2000 mg/ kg (rat) > 5000 mg/ kg (rat)	> 2000 mg / Kg (rabbit)	--
Alcohols, C12-16	68855-56-1	>5000 mg/kg (rat)	--	--

**11.2 CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
Toxicity for reproduction:**

Name	CAS .NO	Rat, Fertility	RDT (Repeated dose toxicity) study	
			Rat	Dog
N-dodecanol	112-53-8	NOAEL = 2000 mg/kg	--	--
Tetradecanol	112-72-1	Not expected to impair fertility	--	--
Hexadecan-1-ol	36653-82-4	--	NOAEL= 1000 mg/k	NOAEL= 1054 mg/kg
Alcohols, C12-16	68855-56-1	Not expected to impair fertility	--	--

11.3 Skin Irritation	No irritation in human beings observed in repeated insult test done using undiluted product
11.4 Eye Irritation	Mild transient irritation. Mild irritation observed in rabbits at 500 mg dosage level of undiluted product
11.5 Sensitisation	Not available

12. ECOLOGICAL INFORMATION

12.1 Comment	This product is very easily biodegradable (90%) and does not cause difficulties in waste water treatment plants. Since it is insoluble in water and lighter than water, large amounts of contamination can be separated using standard oils and fats separators.
--------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

12.2 Biodegradation:

Name	CAS .NO	Method	Result
N-dodecanol	112-53-8	301B	% degradation: 69% in 28 days at 15.4 mg/l ; 10 day window: 63%
Tetradecanol	112-72-1	301B	% degradation: 82.2% in 28 days at 15.9 mg/l ; 10 day window: 77.2%
Hexadecan-1-ol	36653-82-4	301B	% degradation : 62% after 28 days at 17.1mg/l ; 10 day window : <60%
Alcohols, C10-16	67762-41-8	301B	% degradation : 86-87% in 28 days at 13 & 26 mg/l;10 day window : >60%
Alcohols, C12-16	68855-56-1	301B	% degradation : 61% in 29 days at 10 mg/L COD 10 day window: 45%

12.3 Mobility and bioaccumulation potential:**12.3.1 Bioaccumulation:**

Name	CAS. NO.	Log Kow	BCF
N-dodecanol	112-53-8	5.36	67
Tetradecanol	112-72-1	6.03	190
Hexadecan-1-ol	36653-82-4	6.65	480

Remark: Available data indicates that the long chain alcohols are non-bio accumulative.

12.4 Ecotoxicological effects



Name	CAS No.	EC 50	EC 50 48 Hr Er	C50 72 Hr LC	50 96 Hr	NOEC
N-dodecanol	112-53-8	0.62 mg/L (biomass) (Algae) (2.6 mg/L (growth))	0.77 mg/L (n) (Daphnia Magna (Water Flea))	0.33 mg/L (n) (Desmodesmus subspicatus)	1.0 mg/L (m) (Fish Pimephales Promelas)	0.085 mg/L (n) (Desmodesmus subspicatus) (Biomass)
Tetradecanol	112-72-1	Effects seen >LOS (Algae)	3.2 mg/L (>LoS) (Daphnia Magna (Water Flea))	---	> 1 mg/L (n) (>LoS) (Fish Salmo gairdneri)	---
Hexadecan-1-ol	36653-82-4	Effects seen >LOS (Algae)	---	---	>0.4 mg/L (n)(>LoS) (Fish Salmo gairdneri)	---

Remark : Very toxic for fish

13 DISPOSAL CONSIDERATIONS

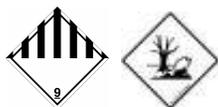
13.1 Methods of Disposal	Disposal methods should be in accordance with local, federal and state environmental regulations
--------------------------	--------------------------------------------------------------------------------------------------

14 TRANSPORT INFORMATION

14.1 UN-Number
ADR, IMDG, IATA UN3082

14.2 UN proper shipping name
ADR 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (dodecan-1-ol, tetradecanol)
IMDG ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (dodecan-1-ol, tetradecanol), MARINE POLLUTANT

14.3 Transport hazard class(es)
ADR, IMDG, IATA



Class 9 Miscellaneous dangerous substances and articles.
Label 9

14.4 Packing group
ADR, IMDG, IATA III

14.5 Environmental hazards: Product contains environmentally hazardous substances:
dodecan-1-ol, tetradecanol
Marine pollutant: Yes

Special marking (ADR): Symbol (fish and tree)

Special marking (IATA): Symbol (fish and tree)



· 14.6 Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
· Danger code (Kemler):	90
· EMS Number:	F-A,S-F
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (dodecan-1-ol, tetradecanol), 9, III

15. REGULATORY INFORMATION

15.1 EEC Regulations	The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous
15.2 Others	According to available data fatty alcohol is not a dangerous chemical. One should, however, observe the usual precautionary measures for dealing with chemicals according to local, state and federal regulations and requirements

16. OTHER INFORMATION

16.1 REACH Registration number (under multiple registrations)		
Dodecan-1-ol	01-2119485976-15-0011	
Tetradecanol	01-2119485910-33-0011	
Hexadecan-1-ol	01-2119485905-24-0013	
16.2 History		
a. Date of first issue	July 20, 2004	
b. Date of last issue	Sept 25, 2012	
c. Date of current issue	March 07,2015	Version 2.00
SDS Authorised By	Mr. C. R. Marathe	

Warning: The information given in this SDS has been compiled from sources which are considered by us as latest, accurate, and dependable. However, VVF (India) Limited expresses no warranty or guarantee of any kind, with respect to any damages or injuries arising out of use of this material alone or other wise and the correctness of the data presented. VVF (India) Limited assumes no responsibility, whatsoever for any injury to the recipient, user, or third person for any damages resulting from use of this product, alone or with other material.
