NaturoSORBAL®
Safety Data Sheet

Supersedes: 22/12/2023 Revision: 1.4 Revision date: 07/06/2024

SECTION 1: Identification

1.1 Identification

Product form	:	Substance
Substance name	:	NaturoSORBAL®
CAS No	:	142-83-6
EC/ List No	:	205-564-3
Formula	:	C_6H_8O
Synonyms	:	Hexa-2,4-dienal, (E,E)- / trans,trans-2,4-Hexadienal / 2,4-Hexadienal, (2E,4E)- / 2,4-Hexadienal, (E,E)- / Sorbic aldehyde, Sorbaldehyde, C6 Aldehyde.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	:	Pharmaceutical Intermediate and perfumery intermediate.
Relevant identified uses	:	Pharmaceutical Intermediate and perfumery intermediate.
Uses advised against:	:	No relevant information available.

1.3 Details of the supplier of the safety data sheet

Godavari Biorefineries Ltd.
45/47, Somaiya bhavan,
Mahatma Gandhi Road,
Fort, Mumbai -400001, INDIA.
T 0091 22 22048272
Email: alka@somaiya.com
www.somaiya.com

1.4 Emergency telephone Number

Emergency number	:	0091 2423 279308 0091 22 61702100 / 22048272 (Monday – Friday - 09.30 hrs to 18.00)

SECTION 2: Hazard(s) identification

GHS classification

2.1 Classification of the substance or mixture

Flammable Liquid. Category 3	:	H226 Flammable liquid and vapour.
Acute Toxicity-Oral Category 4	:	H302 Harmful if swallowed.
Acute Toxicity-Dermal Category 3	:	H311 Toxic in contact with skin.
Skin irritation Category 2	:	H315 Causes skin irritation.
Skin Sensitization category 1	:	H317 May cause an allergic skin reaction.
Eye Irritation. Category 2	:	H319 Causes serious eye irritation

2.2 GHS labeling

Hazard pictograms (GHS-US) :

GHS02

GHS 06

Signal word (GHS-US) : Danger

Hazard statements (GHS-US)

H226 : Flammable liquid and vapour.

H302 : Harmful if swallowed.

H311	:	Toxic in contact with skin.
H315	:	Causes skin irritation.
H319	:	Causes serious eye irritation.
H317	:	May cause an allergic skin reaction.

Precautionary statements (GHS-US)

P210	:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources
P261	:	Avoid breathing fume, gas, mist, spray, vapors
P264	:	Wash hands, forearms and face thoroughly after handling
P265	:	Do not touch eyes
P270	:	Do not eat, drink or smoke when using this product
P272	:	Contaminated work clothing must not be allowed out of the workplace
P280	:	Wear eye protection, face protection, protective clothing, protective gloves
P301+P310	:	**If swallowed:** Immediately call a doctor, a POISON CENTER
P301+P330+P331	:	**If swallowed:** rinse mouth. Do NOT induce vomiting
P302+P352	:	**If on skin:** Wash with plenty of water
P303+P361+P353	:	**If on skin (or hair):** Take off immediately all contaminated clothing. Rinse skin with water/shower
P305+P351+P338	:	**If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P333+P313	:	If skin irritation or rash occurs: Get medical advice/attention.
P321	:	Specific treatment (see supplemental first aid instructions on this label)
P330	:	Rinse mouth
P361	:	Take off immediately all contaminated clothing.
P362+P364	:	Take off contaminated clothing and wash it before reuse.
P363	:	Wash contaminated clothing before reuse.
P370+P378	:	In case of fire: Use alcohol resistant foam, dry sand to extinguish
P403+P235	:	Store in a well-ventilated place. Keep cool.
P405	:	Store locked up.
P501	:	Dispose of contents/container to an approved waste disposal plant

2.3 Other hazards

Other hazards not contributing to the Classification : None.

2.4 Unknown acute toxicity (GHS US)

Not applicable.

SECTION 3: Composition/Information on ingredients

3.1 Substance

Substance type : **Mono-constituent**

Name	Product Identifier CAS No. EC No.	Concentration %	GHS Classification
NaturoSORBAL® (Main constituent)	142-83-6 205-564-3	≥ 90 %	Flam. Liq. 3 H224 Acute Tox. 4 H302 Acute Tox. 3 H311

			Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Irrit. 2 H319
Synthetic Alpha Tocopherol (Stabiliser)	10191-41-0 233-466-0	0.5 %	Skin Sens. 1B H317

Full text of hazard classes and H-statements : see section 16

3.2 Mixture

Not Applicable.

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aid measures general : Do not leave affected persons unattended .First aid personnel should pay attention to their own safety.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower Call a physician immediately.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Protect unharmed eyes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician.

First-aid measures after ingestion : Rinse mouth. Call a physician immediately. Do not induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact : Burns. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Irritating to eyes.

Symptoms/effects after ingestion : Burns.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Fire hazard : Combustible liquid.

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3 Advice for firefighters

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety location. Do not move the load if exposed to heat. Use water moderately and if possible, collect or contain it.

Protection during firefighting : Wear self-contained breathing apparatus for firefighting if necessary. Do not attempt to take action without suitable protective equipment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Protective equipment : Handle in accordance with good industrial hygiene and safety practice.Do not eat, drink or smoke when using this product.Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Emergency procedures	:	No open flames, no sparks, and no smoking. Avoid contact with skin, eyes and clothing. Do not breathe fume, gas, mist, spray, vapors.

6.1.2 For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Stop leak if safe to do so. Ventilate area.

6.2 Environmental precautions

Avoid release to the environment. Prevent soil and water pollution. Prevent spreading in sewers, water bodies. Do not allow product to reach sewage system or any water course.

6.3 Methods and material for containment and cleaning up

For containment	:	Contain released substance, transfer (pump) into suitable containers. Use compatible material of containers. Do not use compressed air for pumping over spills.
Methods for cleaning up	:	Take up liquid spill into absorbent material.
Other information	:	Dispose of materials or solid residues at an authorized site.

6.4 Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions for safe handling	:	Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Do not breathe fume, gas, mist, spray, vapors.
Hygiene measures	:	Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Incompatible products	:	Oxidizing agent, Reducing agents
Incompatible materials	:	Direct sunlight. Heat sources. Sources of ignition.
Prohibitions on mixed storage	:	Keep Substance Away From: combustible materials. oxidizing agents.
Storage area	:	Store in a dry area. Ventilation at floor level. Keep out of direct sunlight. Fireproof storeroom. Keep locked up. Meet the legal requirements. Avoid moisture. Keep container tightly sealed.
Special rules on packaging	:	Special Requirements: closing. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packaging in solid containers.

7.3 Specific end uses

No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.1.1 Occupational exposure limits:

Exposure limits not established in US.

8.2 Exposure controls

Appropriate engineering controls	:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Material should be handled in a laboratory hood/chemical dispensing area whenever possible.
Personal protective equipment	:	

Protective Gloves

	:	GIVE EXCELLENT RESISTANCE
Material of gloves	:	Butyl rubber, BR
Eye protection	:	Safety glasses, face shield
Skin and body protection	:	Head/neck protection. Corrosion-proof clothing, protective suit .
Respiratory protection	:	Use appropriate respiratory device when necessary. Use NIOSH/MSHA approved respirator appropriate for exposure of concern

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid
Colour	:	Yellow to brown
Odour	:	Fatty sweet green odor aldehyde odor
Melting point	:	Not Available
Freezing point	:	Not Available
Initial boiling point/boiling range	:	76 °C (at 30 mmHg)
Flash Point	:	154 °F (open cup)
Density	:	0.888 - 0.898 g/cm³
Molecular mass	:	96.13 g/mol
Flammability(Solid, Gas)	:	Flammable Liquid
Solubility	:	Highly Soluble
Vapor pressure	:	No data Available
Partition coefficient n-octanol/water	:	No data Available
Auto-ignition temperature	:	No data Available
Viscosity	:	No data Available
Oxidizing properties	:	No data Available

9.2 Other information

No Data Available.

SECTION 10: Stability and reactivity

10.1 Reactivity	:	The product is non-reactive under normal conditions of use, storage and transport
10.2 Chemical Stability	:	Stable under recommended storage conditions
10.3 Possibility of hazardous reactions	:	No dangerous reactions known under normal conditions of use.
10.4 Conditions to avoid	:	Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition
10.5 Incompatible materials	:	May react with Strong oxidizing agents, Reducing agents.
10.6 Hazardous decomposition products	:	Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known and may form mixture of hazardous gas of Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Likely routes of exposure	:	Ingestion, Skin and eye contact
Acute toxicity	:	Not classified.

NaturoSORBAL® (142-83-6)		
LD50 oral toxicity (Rat)	:	300 mg/kg bw (Acute Toxicity: oral)
LD50 dermal toxicity (Rat)	:	270 µl/kg (Acute Toxicity: dermal)

Skin irritation	:	Causes skin irritation
Serious eye damage/irritation	:	May cause eye irritation.
Respiratory or skin sensitization	:	May cause an allergic skin reaction.
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
Specific target organ toxicity – single exposure	:	Not classified
Specific target organ toxicity – repeated exposure	:	Not classified
Aspiration hazard	:	Not classified

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

Ecology - general	:	Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/22155-60-48.
Ecology - air	:	Not classified as dangerous for the ozone layer (Regulation (EC) No 12155-60-45/22155-60-49).

Ecology – water	:	Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/22155-60-48.
Ecology - general	:	Before neutralization, the product may represent a danger to aquatic organisms.

NaturoSORBAL® (142-83-6)					
		Toxicity to Fish	**Toxicity to aquatic invertebrates**	**Toxicity to aquatic plants**	**Toxicity to Microorganisms**
Species	:	Oncorhynchus mykiss (rainbow trout)	Pseudokirchneriellasubcapitata	Daphnia magna	Pseudomonas putida
Value	:	No data available	No data available	No data available	No data available
Exposure time	:	-	-	-	-

12.2 Persistence and degradability

No additional information available.

12.3 Bio accumulative potential

No additional information available.

12.4 Mobility in soil

No additional information available.

12.5 Results of PBT and vPvB assessment

No additional information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste disposal recommendations	:	Remove and dispose waste in accordance with local and/or national regulations. Recommended practice of distillation, physico-chemical/biological treatment and authorized waste incinerator for solvents with energy recovery. Do not discharge into drains or the environment.

SECTION 14 : Transport Information

Marine transport (IMDG)

UN/ID No.	:	UN1992
Proper shipping name and description	:	Flammable liquids, toxic, n.o.s. (trans,trans2,4-Hexadienal)
Hazard Class	:	3 Flammable liquids
Packing group	:	III
Hazard Identification Number	:	36
Marine pollutant	:	No
Hazard Labels	:	3+6.1
EMS Code	:	F-E,S-D

Air transport ICAO/IATA

UN number	:	UN1992
Proper shipping name	:	FLAMMABLE LIQUID, TOXIC, N.O.S.(trans,trans-2,4-Hexadienal)
Hazard Class	:	3 Flammable liquids
Packing group	:	III
Hazard Labels	:	3 + 6.1

Department of Transportation (DOT)

UN number	:	UN1992
Proper shipping name and description	:	Flammable liquids, toxic, n.o.s. (trans,trans2,4-Hexadienal)
Transport hazard Class	:	3 Flammable liquids
Packaging group	:	III
Quantity limitations	:	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L
Hazard labels (DOT)	:	3 - Flammable liquid

SECTION 15: Regulatory information

15.1 National regulations

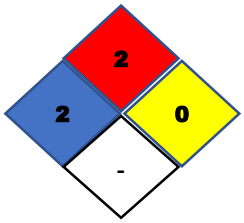
Country	National Inventories	Listing
AUSTRALIA	AICS	Listed
CANADA	DSL	Listed
CHINA	IECSC	Listed
EUROPE	EC	Listed
MASSACHUSETTS	MSL	Listed
NEW ZEALAND	NZIoC	Listed
PHILIPPINES	PICCS	Listed
SOUTH KOREA	KECI	Listed
TAIWAN	TCSI	Listed
USA	TSCA	Listed

SECTION 16: Other information

16.1 Hazard Statement

H226	:	Flammable liquid and vapour.
H302	:	Harmful if swallowed.
H311	:	Toxic in contact with skin
H315	:	Causes skin irritation.
H319	:	Causes serious eye irritation.
H317	:	May cause an allergic skin reaction.

16.2 NFPA Rating



16.3 Abbreviations and acronyms

PBT =Persistent Bioaccumulative and Toxic.

vPvB= Very Persistent and Very Bioaccumulative.

SCBA= Self Contained Breathing Apparatus.

NIOSH REL= National Institute for Occupational Safety and Health Recommended Exposure Limit.

OSHA PEL=Occupational Safety and Health Adminstration Permissible Exposure Limit.

OELTWA= Occupational Exposure Limit Time Weighted Averages

IDLH= Immediately Dangerous to Life or Health

UEL= Upper Explosive Limit

LEL= Lower Explosive Limit

RTECS= Registry of Toxic Effects of Chemical Substances

NTP=National Toxicology Programm

IARC= International Agency for Research on Cancer

EPA=Environmental Protection Agency

TSCA= Toxic Substances Control Act

NFPA= National Fire Protection Association

CSR=Chemical Safety Report

BCF = Bio Concentration Factor

DNEL = Derived No Effect Level

PNEC = Predicted No Effect Concentration

TLV = Threshhold Limit Value

ACGIH = American Conference of Governmental Industrial Hygienist

REACH = Registration, Evaluation .Authorisation and Restriction of Chemicals

CLP = Classification, Labelling and Packaging

LD / LC = Lethal Doses / Lethal Concentration

GHS = Globally Harmonised System

ADR = Accord europeen relative au transport international de marchandises

IMDG-Code = International Maritime Code for Dangerous Goods

EmS = Emergency measures on Sea

ICAO = International Civil Aviation Organization

IATA/DGR= International Air Transport Association/Dangerous Goods Regulation

16.4 Further information:

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and Godavari Biorefineries Ltd. assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.