

# ANHYDROUS ETHANOL

## Safety Data Sheet

Supersedes: NA

Version: 1.0

Revision date: 07/10/2024



### SECTION 1: Identification

#### 1.1 Identification

Product form	: Substance
Substance name	: Anhydrous Ethanol
CAS No	: 64-17-5
EC/ List No	: 200-578-6
Formula	: CH <sub>3</sub> CH <sub>2</sub> OH
Molecular weight	: 46.07 g/mol
Synonyms	: Ethyl Alcohol

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

Use of the substance/mixture	: Laboratory chemicals, Manufacture of substances, Blend with Petrol etc.
Relevant identified uses	: Industrial uses

#### 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](http://www.somaiya.com)

#### 1.4 Emergency telephone Number

Emergency number	: 08350 260046/47/48 +91 8140030555
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### SECTION 2: Hazard(s) identification

#### GHS classification

##### 2.1 Classification of the substance or mixture

Flammable liquid (Category 2)	: H225
Eye irritation (Category 2)	: H319

##### 2.2: GHS labeling

Hazard pictograms (GHS)



: GHS 02                      GHS 07

<b>Signal word (GHS)</b>	: Danger
<b>Hazard statements (GHS)</b>	: H225 Highly flammable liquid and vapor. H319 Causes serious eye irritation.

#### Precautionary statements (GHS)

P210	: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	: Keep container tightly closed.
P240	: Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting/...] equipment
P242	: Use non-sparking tools.
P243	: Take actions to prevent static discharges.
P260	: Do not breathe dust/fume/gas/mist/vapors/spray.
P264	: Wash hands thoroughly after handling.
P270	: Do not eat, drink or smoke when using this product.
P280	: Wear protective gloves/protective clothing/eye protection/face protection.

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- P303+P361+P353 : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P370+P378 : In case of fire: Use Dry chemical, alcohol foam, all-purpose AFFF, carbon dioxide or water spray to extinguish.
- P305+P351+P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 : IF exposed or concerned: Get medical advice/attention.
- P337+P313 : If eye irritation persists: Get medical advice/attention.
- P403 + P235 : Store in a well-ventilated place. Keep cool.
- P501 : Dispose of contents/ container to an approved waste disposal plant
- Supplemental Hazard information:** : None

### 2.3 Other hazards

Not available

### 2.4 Unknown acute toxicity (GHS)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1 Substance

Substance type			
Name	Product identifier	Concentration %	GHS classification
Anhydrous Ethanol	CAS No. 64-17-5 EC No. 200-578-6	Minimum 99.5	Flam. Liq. 2; Eye Irrit. 2; H225, H319 Concentration limits: >= 50 %: Eye Irrit. 2A, H319

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

- General information : Consult a physician. Show this safety data sheet to the doctor in attendance. Take copy of label and MSDS to health professional with contaminated individual.
- Inhalation : Remove from exposure, provide fresh air. Obtain medical attention if symptoms appear.
- Skin contact : Wash skin with water. Obtain medical attention if soreness or redness persists.
- Eye contact : Immediately rinse the eye with plenty of water for at least 15 minutes, holding the eye open. Remove contact lenses if possible. Obtain medical attention.
- Ingestion : Do not induce vomiting. Obtain medical attention. Accidental ingestion at a level high enough to be dangerous to health is unlikely.

### 4.2 Most important symptoms and effects, both acute and delayed

- Chronic Symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Gastrointestinal complaints. Enlargement/affection of the liver. Change in the haemogramme/blood composition. Cardiac and blood circulation effects. High arterial pressure. Impairment of the nervous system. Behavioural disturbances. Weakening of the immune system

### 4.3 Indication of any immediate medical attention and special treatment needed

Obtain medical assistance. most important known symptoms and effects are described in the labelling (see section

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Dry chemical, alcohol resistant foam or carbon dioxide, water spray
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire

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### 5.2. Special hazards arising from the substance or mixture

Flammable liquid and vapour

Hazardous combustion products : Carbon monoxide and carbon dioxides

### 5.3 Advice for firefighters

Firefighting instructions : Self-contained breathing apparatus with full-face mask and full protective clothing (standard wear).

### 5.4 Additional information

Be aware of possibility of re-ignition. This product gives off flammable vapours which may form explosive mixtures with air. Vapours with a source of ignition can create a flash fire, not a UVCE (Unconfined Vapour Cloud Explosion). Run off to sewer may cause fire or explosion hazard Containers may explode in heat of fire. Use water to cool fire-exposed containers and to disperse vapour.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Eliminate all sources of ignition. Wear appropriate protective clothing. Avoid breathing vapours. Keep unnecessary people away; isolate hazard area and deny entry. Consider need for evacuation. Stay up wind and keep out of low areas where vapour may accumulate and ignite. Stop leak if this can be achieved without risk. For small spills take up with a non-combustible absorbent. For large spills, dike or dam for later disposal.

### 6.2 Environmental precautions

Try to prevent the material from entering drains or water courses. Advise Authorities if spillage has entered water course or sewer or has contaminated soil or vegetation

### 6.3 Methods and material for containment and cleaning up

Small spills: Allow to evaporate if it is safe to do so or contain and absorb using earth, sand or other inert material then transfer into suitable containers for recovery or disposal. Ventilate contaminated area thoroughly. Large spills: Dike or dam to contain for later disposal. Contact emergency authorities.

### 6.4 Reference to other sections

For personal protection see section 8

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Precautions for safe handling : Store in tightly closed containers in cool, dry, isolated, well-ventilated area. Comply with legal requirements. Avoid inhaling vapour. Avoid contact with eyes, skin and clothing. Suitable equipment for dealing with fires, spills and leaks must be readily available. Earth all equipment. Use explosion protected electrical equipment and lighting. Do not smoke eat or drink in areas of use and storage. Use closed system transfers wherever possible. Earth (ground) lines and equipment used during transfer to reduce possibility of static spark-initiated fire or explosion  
For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Storage area should be cool, dry, well ventilated, out of direct sunlight and separated from oxidants and strong mineral acids. Store in original containers. Store away from sources of heat or ignition. Storage tanks should have equipotential electrical bonding and be earthed. Storage should be closed.

Incompatible materials: natural rubber, PVC, methyl-methacrylate plastics,

Compatible materials: Stainless steel, glass.

### 7.3 Specific end uses

No data available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### 8.1.1 Occupational exposure limits:

INGREDIENTS	ACGIH	NIOSH	OSHA-FINAL PELs
Ethyl alcohol	1000 ppm TWA 1900 mg/m <sup>3</sup> TWA	1000 ppm TWA 1900 mg/m <sup>3</sup> TWA 3300 ppm IDLH	1000 ppm TWA

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### 8.1.2 DNEL/PNEC-values:

**Substance name:** Ethanol

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	1.900 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - systemic effects
DNEL	343 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
DNEL	950 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects

Endpoint	Threshold level	Environmental compartment
PNEC	0.79 mg/cm <sup>3</sup>	marine water
PNEC	PNEC	PNEC
PNEC	PNEC	PNEC
PNEC	PNEC	PNEC
PNEC	PNEC	PNEC
PNEC	PNEC	PNEC

### 8.2 Exposure controls

- Appropriate engineering controls : Use of the basic principles of Industrial Hygiene will enable this material to be used safely. Exposure to this material may be controlled in a number of ways. The measures appropriate for a particular worksite depend on how the material is used and on the potential for exposure. If engineering controls and work practices are not effective in preventing or controlling exposure, then suitable personal equipment, which is known perform satisfactorily, should be used.
- Personal protective equipment :  Protective goggles. Gloves. Protective clothing. Face shield. Gas mask with filter.
- Eye/face protection : Safety goggles.
- Skin protection: : Wear gloves with breakthrough times >480 minutes: Nitrile rubber gloves. Butyl rubber gloves. (complying to NIOSH (US) or EN 374-3) The exact choice of glove type depends on the type of work being undertaken. Gloves should be chosen in consultation with a glove manufacturer and after a full assessment of the working conditions. Gloves should be replaced regularly.
- Hand protection
- Body protection: : Standard work wear and safety boots for normal handling and use.
- Respiratory protection : Use with adequate ventilation. In case of insufficient local exhaust ventilation and/or handling with open equipment: Respiratory air fed breathing apparatus if there is a risk of

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exposure to high vapour concentrations. If using a half mask: organic vapour cartridge Ax type. Use respirators and Components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Environmental exposure controls** : Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid
Color	: Colorless
Odor	: Sweet
pH	: No Data Available
Melting point / Freezing point	: -114 °C at 1.013 hPa
Initial boiling point/boiling range	: 76.3°C at 1.013 hPa
Flash Point	: 13 °C – closed cup
Relative evaporation rate	: No Data Available
Relative density	: 0.789 g/mL at 25 °C
Relative vapour density at 20°C	: 1.6
Specific gravity/ density	: 0.8 g/l
Molecular mass	: 46.07 g/mol
Flammability(Solid, Gas)	: No data available
Upper/lower flammability or Explosive limit	: Upper explosion limit: 19 %(V) Lower explosion limit: 3.3 %(V)
Solubility	: Soluble in water
Vapor pressure	: 78.7hPa @ 25°C
Vapour density	: No Data Available
Evaporation Rate	: No Data Available
Partition coefficient n-octanol/water	: -0.35 at 20°C
Auto-ignition temperature	: 363 °C at 1.013 hPa
Decomposition temperature	: No Data Available
Viscosity	: 3.68 mPa.s (20°C)(Dynamic)
Explosive Limits	: No Data Available
Oxidizing properties	: No Data Available
Minimum Ignition energy	: No Data Available

#### 9.2 Other information

No data available.

### SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: Risk of ignition. Vapours can form explosive mixtures with air.
<b>10.2 Chemical Stability</b>	: The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
<b>10.3 Possibility of hazardous reactions</b>	: Violent reaction with: strong oxidiser, Alkali metals, Alkaline earth metal, Acetic anhydride, Peroxides, Phosphorus oxides (e.g. P2O5), Nitric acid, Nitrate, Perchlorates
<b>10.4 Conditions to avoid</b>	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
<b>10.5 Incompatible materials</b>	: Strong acids and bases, oxidising agents. Aluminium at higher temperature
<b>10.6 Hazardous decomposition products</b>	: Oxides of carbon on combustion

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Acute oral toxicity LD50	: Species: Rat Value: >10470 mg/kg Method: OECD Guideline 401
Acute dermal toxicity LD50	: Species: Rabbit Value: 17,100 mg/kg bw
LC50 inhalation toxicity	: Species: rat Value: 62 mg/l Exposure time: 4 h
Skin corrosion/irritation	: Species: Rabbit Classification: non-irritant Method: OECD Test Guideline 404

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Eye irritation	: Classification: irritating to eyes Category 2A Method: OECD Test Guideline 405
Respiratory or skin sensitization	: V Species: Guinea pig Classification: non-sensitizing
Germ cell mutagenicity	: Ames test Salmonella typhimurium Result: negative In vitro mammalian cell gene mutation test Mouse lymphoma test Result: negative  OECD Test Guideline 478 Mouse - male
Carcinogenicity	: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
Teratogenicity	: No data available
Reproductive toxicity	: Reproductive toxicity - Human - female - Oral Effects on Newborn: Apgar score (human only). Effects on Newborn: Other neonatal measures or effects. Effects on Newborn: Drug dependence.
Repeated dose toxicity (subacute, subchronic, chronic)	: Subacute oral toxicity Parameter : NOAEL(C) Exposure route : Oral Species : Rat Effective dose : 1730 mg/kg Exposure time : 24 h Method : OECD 408
Specific target organ toxicity (single exposure)	: No data available
Specific target organ toxicity (repeated exposure)	: No data available
Aspiration hazard	: No data available
<b>Potential health effects</b>	: Inhalation vertigo, Inebriation, narcosis, breathing difficulties. Ingestion nausea, vomiting, abdominal pain, Causes damage to liver through prolonged or repeated exposure if swallowed. Skin- Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation). Eyes- Causes eye irritation
Synergistic effects	: Not data available

## SECTION 12: Ecological information

### 12.1 Toxicity

<b>Toxicity to Fish LC50</b>	: Species: Pimephales promelas, Value: 15.3 mg/l Exposure time: 96 h TT Species: Pseudomonas putida Value: 6500 mg/l Exposure time: 16 h
<b>Toxicity to Microorganisms</b>	: Method: DIN 38412 LC50 Species: Paramaeciumcaudatum Value: 5,800 mg/l Exposure time: 4 h LC50 Species: Ceriodaphnia dubia Value: 5012 mg/l
<b>Toxicity to aquatic invertebrates LC50</b>	: Exposure time: 48 h NOEC Species: Daphnia magna (Water flea) Value: 9.6 mg/l Exposure time: 9 d

### 12.2 Persistence and degradability

Readily biodegradable.

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Biodegradation: 95%  
Exposure time: 15 d  
Result: Readily biodegradable.  
Method: OECD 301 D

### 12.3 Bioaccumulative potential

The substance has a low potential for bioaccumulation.

### 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 Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product disposal

- : Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal. Offer surplus and non-recyclable solutions to a licensed disposal company.

#### Packaging

- : Do not incinerate closed containers.

## SECTION 14 : TRANSPORT INFORMATION

### Land transport (ADR/RID)

UN number : 1170  
Proper shipping name and description : ETHANOL  
Classification code : F1  
Packaging group : II Labels:Risk label: 3  
Special Provisions: ADR/RID/SDNR: 274 to 330 - 601 - 640D.  
Remarks:  
Hazard code (Kemler code) 33. Tunnel category (D/E)  
Emergency response information card (ERIC) hazardous : 3-09 Environmentally  
: no

### Marine transport (IMDG)

:  
UN number : 1170  
Proper shipping name and description : ETHANOL  
Class : 3  
Packaging group : II  
Hazard Identification Number : 33  
EmS code : F-E, S-D  
Marine pollutant : No

### Air transport ICAO/IATA

UN number : 1170  
Proper shipping name and description : ETHANOL  
Class : 3  
Packaging group : II

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Hazard Labels : 3  
Environmentally hazardous : No

### Department of Transportation (DOT)

UN number : 1170  
Proper shipping name and description : Ethanol  
Class : 3  
Packaging group : II  
Reportable Quantity (RQ) : Not applicable  
Poison Inhalation Hazard : No  
Hazard labels (DOT) :



3 - Flammable liquid

### SECTION 15: Regulatory information

#### US FEDERAL

##### TSCA

: CAS# 64-17-5 is listed on the TSCA inventory.

##### Health & Safety Reporting List.

: None of the chemicals are on the Health & Safety Reporting List.

##### Chemical Test Rules

: None of the chemicals in this product are under a Chemical Test Rule.

#### European/International Regulations

##### European Labeling in Accordance with EC Directives

##### Hazard Symbols:

: F

##### Risk Phrases:

: R 11 Highly flammable

##### Safety Phrases

: S 16 Keep away from sources of ignition - No smoking.  
S 7 Keep container tightly closed.

##### WGK (Water Danger/Protection)

: CAS# 64-17-5: 0

##### Canada - DSL/NDSL

: CAS# 64-17-5 is listed on Canada's DSL List.

##### Canada – WHMIS

: This product has a WHMIS classification of B2, D2A.

##### Canadian Ingredient Disclosure List

: CAS# 64-17-5 is listed on the Canadian Ingredient Disclosure List.

#### 15.1 National regulations

Country	National Inventories	Listing
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AU	AICS	Listed
CA	DSL	Listed
CN	IECSC	Listed
EU	ECSI	Listed
EU	REACH Reg.	Listed
JP	CSCL-ENCS	Listed
KR	KECI	Listed
MX	INSQ	Listed
NZ	NZIoC	Listed
PH	PICCS	Listed
TR	CICR	Listed
TW	TCSI	Listed
US	TSCA	Listed

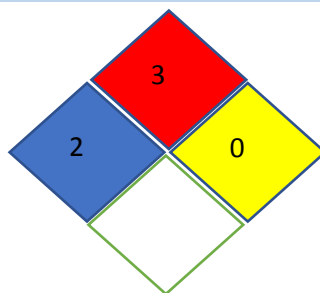
### SECTION 16: Other information

#### 16.1 Hazard Statement

: H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.

#### 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 Administration 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 = Threshold 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

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GHS = Globally Harmonised System  
ADR = Accord européen 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

The information in this safety data sheet is based on data and samples provided. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes.

The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. Godavari Biorefineries Limited does not guarantee the accuracy or exhaustiveness of the information provided.