ETHYL ACETATE
Safety Data Sheet

Supersedes: 15/12/2023 Revision: 1.4 Revision date: 08/10/2024

SECTION 1: Identification

1.1 Identification

Product form	:	Substance
Substance name	:	Ethyl Acetate
CAS No	:	141-78-6
EC/ List No	:	205-500-4
Formula	:	$C_4H_8O_2$
Molecular weight	:	88.11 g/mol
Synonyms	:	Ethyl acetic ester, Ethyl ester, Ethyl ethanoate

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

Use of the substance/mixture	:	Industrial Solvent Pharmaceutical
Relevant identified uses	:	Agrochemical
Uses advised against:	:	Laboratory chemical

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 22048272 (Monday – Friday - 09.30 hrs to 18.00 hrs)

SECTION 2: Hazard(s) identification

GHS classification

2.1 Classification of the substance or mixture

Flammable liquids Category 2	:	H225 Highly flammable liquid and vapour
Eye irritation, Category 2	:	H319 Causes serious eye irritation
Specific target organ toxicity - single exposure Category 3	:	H336 May cause drowsiness and dizziness.

2.2: GHS labeling

Hazard pictograms (GHS) :

GHS02

GHS07

Signal word (GHS)	:	Danger
Hazard statements (GHS)	:	H225-Highly flammable liquid and vapour H319-Causes serious eye irritation. H336-May cause drowsiness and dizziness
Precautionary statements (GHS)	:	P210 -Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 -Keep container tightly closed. P240 -Ground and bond container and receiving equipment P241 -Use explosion-proof equipment P242 -Use non-sparking tools. P243 -Take actions to prevent static discharges P280 -Wear protective gloves/protective clothing/eye protection/face protection. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

Precautionary statements (GHS)	:	P370+P378 -In case of fire: Use water spray, foam, or carbon dioxide to extinguish. P403+P235 -Store in a well-ventilated place. Keep cool. P501- Dispose of contents/container to hazardous waste in accordance with local/regional/national/international regulations. P264 -Wash hands thoroughly after handling. P305+P351+P338 - IFIN 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. P261 -Avoid breathing fume/mist/vapours/spray. P271 -Use only outdoors or in a well-ventilated area P304+P340 -IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312 - Call a POISON CENTER if you feel unwell. P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up

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** **Index No**	**Concentration %**	**GHS Classification**
Ethyl Acetate (Main constituent)	141-78-6 205-500-4 607-022-00-5	≥99.5	Flam. Liq. 2, H225; Eye Irrit. 2, H319 STOT SE 3, H336 EUH066

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	:	Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.
First-aid measures Inhalation	:	Remove the victim into fresh air. Immediately consult a doctor/medical service.
First-aid measures Skin contact	:	Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service.
First-aid measures Eye contact	:	Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist.
First-aid measures Ingestion	:	Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Do not give activated charcoal. Immediately consult a doctor/medical service. Ingestion of large quantities: immediately to hospital. Do not give chemical antidote. Doctor: gastric lavage is not recommended.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation	:	Irritation of the respiratory system. Vapours may cause headache, fatigue, dizziness and nausea. In higher concentrations, central nervous system depression and coma.
Symptoms/injuries after skin contact	:	Acute: May irritate the skin. Delayed: Skin dryness and dermatitis
Symptoms/injuries after eye contact	:	Acute: Irritating to eyes. Delayed: May cause damage to the eyes.
Symptoms/injuries after ingestion	:	Acute: Nausea, vomiting. Delayed: Similar effects as inhalation
Chronic symptoms	:	On continuous / repeated exposure: Dermatitis, damage of the eye tissue. central nervous system depression and coma.

4.3 Indication of any immediate medical attention and special treatment needed

Seek medical assistance.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Water spray. Polyvalent foam. Alcohol-resistant foam. BC powder. Carbon dioxide.
Unsuitable extinguishing media	:	No unsuitable extinguishing media known.

5.2 Special hazards arising from the substance or mixture

Flammable liquid and vapour	:	DIRECT FIRE HAZARD. Flammable. Gas/vapor flammable with air within explosion limits. INDIRECT FIRE HAZARD. May be ignited by sparks
Explosion Hazard	:	DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD. may be ignited by sparks
Hazardous combustion products	:	No data available
Reactivity	:	On heating: release of corrosive/combustible gases/ vapours. Upon combustion: CO and CO2 are formed. Violent to explosive reaction with many compounds e.g.: with (strong) oxidizers:

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. Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
Protection during firefighting	:	Do not enter fire area without proper protective equipment, including respiratory protection.

5.4 Additional information

No Data Available.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Protective equipment	:	Gas-tight chemical suit. Corrosion-proof suit. Refer "Material-Handling" to select protective clothing.
Emergency procedures	:	Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop nearby engines and no smoking. No naked flames or sparks. Use Spark- and explosion-proof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.

For emergency responders

Protective equipment	:	Equip cleanup crew with proper protection.
Emergency procedures	:	Stop leak if safe to do so. Ventilate area.

6.2 Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers, water bodies.

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. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute combustible/toxic gases/vapours with water spray. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.
Methods for cleaning up	:	Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite, powdered limestone. Scoop absorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/ authorized disposal facility. Wash clothing and equipment after handling.

6.4 Reference to other sections

No additional information available.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions for safe handling	:	Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Use corrosion proof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Keep container tightly closed. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Exhaust gas must be neutralised.
Hygiene measures	:	Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2 Conditions for safe storage, including any incompatibilities

Heat-ignition	:	KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Prohibitions on mixed storage	:	KEEP SUBSTANCE AWAY FROM: combustible materials. oxidizing agents. (strong) bases. metals. alcohols. amines. water/moisture.
Storage Conditions	:	Storage should be in a cool location away from direct sunlight. Keep the container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.
Special rules on packaging	:	SPECIAL REQUIREMENTS: closing. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	:	SUITABLE MATERIAL: Aluminum, glass. MATERIAL TO AVOID: steel. iron. zinc. lead. copper. bronze.

7.3 Specific end uses

Part from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ethyl Acetate (141-78-6)

ACGIH	ACGIH TWA (ppm)	400 ppm
ACGIH	ACGIH STEL (ppm)	15 ppm (Acetic acid; USA; Short time value; TLV – Adopted Value)
OSHA	OSHA PEL (TWA) (mg/m³)	1400 mg/m³ (8 Hr)
OSHA	OSHA PEL (TWA) (ppm)	400 ppm
IDLH	US IDLH (ppm)	2000 ppm
NIOSH	NIOSH REL (TWA) (mg/m³)	1400 mg/m³ (10 hr)
NIOSH	NIOSH REL (TWA) (ppm)	400 ppm
NIOSH	NIOSH REL (STEL) (mg/m³)	37 mg/m³
NIOSH	NIOSH REL (STEL) (ppm)	15 ppm

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 safely.

Personal protective equipment :

Protective goggles. Gloves. Protective clothing. Face shield. Gas mask with filter.

Materials for protective clothing : GIVE EXCELLENT RESISTANCE: butyl rubber. polyethylene/ethylene vinyl alcohol. viton. GIVE GOOD RESISTANCE: neoprene. GIVE LESS RESISTANCE: natural rubber. PVC. GIVE POOR RESISTANCE: polyethylene. PVA.

Hand protection : Gloves.

Eye protection : Safety glasses.

Skin and body protection : Head/neck protection. Corrosion-proof clothing.

Respiratory protection : Wear gas mask with filter type A if conc. in air > exposure limit. High vapour/ gas concentration: self-contained respirator.

Thermal hazard protection : None.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Liquid

Colour : Colorless

Odour : Fruity odour, 3.9 ppm(Threshold limit)

pH : No Data Available

Melting point : -84 °C

Freezing point : No Data Available

Initial boiling point/boiling range : 77 °C

Flash Point : -4.5 °C (Closed cup)

Relative evaporation rate : 2.4

Relative density : 0.9003 (20 °C)

Relative vapour density at 20ºC	:	3.0
Specific gravity/ density	:	0.902 kg/m³
Molecular mass	:	88.11 g/mol
Flammability(Solid, Gas)	:	No data available
Upper/lower flammability or Explosive limit	:	No Data Available
Solubility	:	80 g/l (80,000 mg/L) Soluble in water, acetone, benzene.
Vapor pressure	:	10.3 kPa at 21 °C
Vapour density	:	No Data Available
Evaporation Rate	:	No Data Available
Partition coefficient n-octanol/water	:	0.68 (Experimental value; 25 °C, n-octanol water)
Auto-ignition temperature	:	427 °C
Decomposition temperature	:	No Data Available
Viscosity	:	1.168 cSt(Kinematic), 0.45 mPa (25°C)(Dynamic)
Explosive Limits	:	2 – 11.5 vol %
Oxidizing properties	:	No Data Available

9.2 Other information

Surface Tension	:	24 mN/m (30˚C)
VOC content	:	100 %
Other properties	:	Gas/vapour heavier than air at 20°C. distant ignition possible. Volatile. Slowly decomposed in presence of water.

SECTION 10: Stability and reactivity

10.1 Reactivity	:	On heating: release of Toxic/combustible gases/vapours . Upon combustion: CO and CO2 are formed. Violent to explosive reaction with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion. Reacts violently with (some) bases. Reacts with (some) metals: release of highly flammable gases/vapours (hydrogen).
10.2 Chemical Stability	:	Hygroscopic.
10.3 Possibility of hazardous reactions	:	Reacts violently with (some) bases: release of heat.
10.4 Conditions to avoid	:	Extremely high or low temperatures. Incompatible materials.
10.5 Incompatible materials	:	May react violently with alkalis. May react with bases, copper, silver, mercury, magnesium, zinc and their alloys.
10.6 Hazardous decomposition products	:	Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Likely routes of exposure	:	Inhalation; Skin and eye contact
Acute toxicity	:	Not classified

Ethyl Acetate (141-78-6)		
LD50 oral toxicity	:	5620 mg/kg body weight (Rabbit)
LD50 dermal toxicity	:	>20000 mg/kg body weight (Rabbit)
LC50 inhalation toxicity	:	22.5 mg/L Exposure time: 6 h (Rat)

Skin corrosion/irritation	:	Nonirritant.
Serious eye damage/irritation	:	Irritant. Tests on rabbits, OECD Guideline 405, Acute eye Irritation / Corrosion.

Respiratory or skin sensitization	:	Guinea pig maximization test (GPMT) - Guinea pig: OECD Guideline 406 (Skin sensitization). Not sensitizing
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	No Not classified
Specific target organ toxicity (single exposure)	:	May cause drowsiness or dizziness
Specific target organ toxicity (repeated exposure)	:	No Not classified
Aspiration hazard	:	No Not classified

SECTION 12: Ecological information

12.1 Toxicity

Ecology - general	:	Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology - air	:	Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Not included in the list of substances which may contribute to the greenhouse effect (Regulation (EC) No 842/2006). TA-Luft Klasse 5.2.5/II..
Ecology – water	:	Moderately toxic to fishes and inhibit growth in aquatic plant.

Ethyl Acetate (141-78-6)				
	Toxicity to Fish	**Toxicity to aquatic invertebrates**	**Toxicity to aquatic plants**	**Toxicity to Microorganisms**
Species	**Pimephales promelas (Fat-head Minnow)**	**Daphnia magna**	**Scenedesmus subspicatus**	**Photobacterium phosphoreum**
Value	220 mg/l	3090 mg/l	>100 mg/l	5870 mg/l
Exposure time	96 h	24 h	72hrs	2 hrs.

12.2 Persistence and degradability

Ethyl Acetate (141-78-6)

Persistence and degradability	:	Readily biodegradable in water. Biodegradable in the soil. High mobility in soil.

12.3 Bioaccumulative potential

Bio-accumulative potential	:	Bioaccumulation unlikely.

12.4 Mobility in soil

Ecology – soil High mobility in soil.

12.5 Other adverse effects

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 number	:	1173
Proper shipping name and description	:	Ethyl Acetate
Class	:	3

Packaging group	:	II
Hazard Identification Number	:	33
EmS code	:	F-E, S-D
Marine pollutant	:	No

Air transport ICAO/IATA

UN number	:	1173
Proper shipping name and description	:	Ethyl Acetate
Class	:	3
Packaging group	:	II
Hazard Labels	:	Corrosive and Flammable liquid
Environmentally hazardous	:	No

Department of Transportation (DOT)

UN Number	:	UN1173
Proper Shipping Name	:	ETHYL ACETATE
Transport hazard class	:	3
Packing group	:	II
Reportable Quantity (RQ)	:	1000 lbs
Poison Inhalation Hazard	:	No
Hazard labels	:	

3 - Flammable liquid

SECTION 15: Regulatory information

15.1 National regulations

Ethyl Acetate (141-78-6)

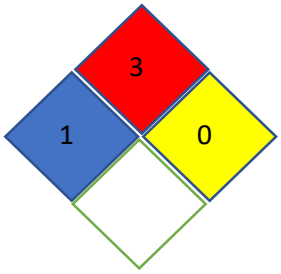
Country	National Inventories	Listing
AUSTRALIA	AICS	Listed
CANADA	DSL	Listed
CHINA	IECSC	Listed
EUROPE	EC	Listed
JAPAN	ENCS	Listed
NEWZEALAND	NZIoC	Listed
PHILIPPINES	PICCS	Listed
SOUTH KOREA	KECI	Listed
TAIWAN	TCSI	Listed
USA	TSCA	Listed

SECTION 16: Other information

16.1 Hazard Statement

H225	:	Highly flammable liquid and vapour
H319	:	Causes serious eye irritation
H336	:	May cause drowsiness and dizziness.

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