Safety Data Sheet

MSDS: ETHANOL

Date Issued: 01 September 2018

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. PRODUCT IDENTIFIER

Product Name:	CDA (Completely denatured alcohol)
Chemical name:	Ethanol, Ethyl Alcohol
Internal identification:	Ethanol denatured with Isopropanol, methyl ethyl ketone and bitrex
Synonyms; trade names:	Ethyl Alcohol Denatured, 70 - 100% v/v
CAS number:	64-17-5
EU index number:	603-002-00-5
EC number:	200-578-6

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified uses: Raw material for adhesive and binders. Raw material for fuels or fuel additives. Raw material for aerosol propellants. Antifreeze liquid. Raw material for fertilizers. Disinfectant. Printing ink. Industrial use. See Section 16 for more details.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier: KimiaUK
Eastways Park, Witham, Essex CM8 3YE
United Kingdom
00 44 1376 535900
sales@haymankimia.co.uk

1.4. EMERGENCY TELEPHONE NUMBER

Emergency telephone 00 44 1270 502891 (24 Hr)

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE CLASSIFICATION (EC 1272/2008)

Physical hazards: Flam. Liq. 2 -H225
Health hazards: Eye Irrit. 2 - H319
Environmental hazards: Not Classified

2.2. LABEL ELEMENTS

EC number: 200-578-6

Pictogram
Signal word: Danger
Hazard statements: H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
Precautionary statements:
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 electrical equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P264 Wash contaminated skin thoroughly after handling.
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.
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.
P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/ container in accordance with national regulations.

2.3. OTHER HAZARDS

Vapours may form explosive mixture with air. This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. MIXTURES

	CAS number	EC number	REACH registration number
ETHANOL 70-100%			
Classification	64-17-5	200-578-6	012119457610-43-XXXX
Flam. Liq. 2 - H225			
Eye Irrit. 2 - H319			
BUTANONE 1-5%			
Classification	78-93-3	201-159-0	012119457290-XXXX
Flam. Liq. 2 - H225			
Eye Irrit. 2 - H319			
STOT SE 3 - H336			
Isopropanol; Propan-2-ol 1-5%			
Classification	67-63-0	200-661-7	012119457558-25-0000
Flam. Liq. 2 - H225			
Eye Irrit. 2 - H319			
STOT SE 3 - H336			
Denatonium benzoate 10ppm			
Classification	3734-33-6	223-095-2	052114509122-65-XXXX
Acute Tox. 4 - H302			
Acute Tox. 4 - H312			
Aquatic Chronic 4 - H413			

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

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SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

General information: Remove contaminated clothing.

Inhalation: Move affected person to fresh air at once. Consult a physician for specific advice.

Ingestion: Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. Get medical attention.

Skin contact: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.

Eye contact: If liquid has entered the eyes, proceed as follows. Rinse immediately with plenty of water.

Continue to rinse for at least 15 minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. Get medical attention if symptoms are severe or persist after washing.

Protection of first aiders: First aid personnel should wear appropriate protective equipment during any rescue.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Inhalation: Harmful if inhaled. May cause respiratory system irritation.

Ingestion: May cause nausea, headache, dizziness and intoxication. Small amounts may cause serious damage. If exposed to large concentrations: Unconsciousness and convulsions can occur.

Skin contact: The product is irritating to eyes and skin.

Eye contact: Causes serious eye damage.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Notes for the doctor: No specific recommendations.

Specific treatments: For specialist advice, physicians should contact the Poisons Information Service.

SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable extinguishing media: Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific hazards: Extremely flammable liquid and vapour. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.

Hazardous combustion products: Highly flammable gases or vapours.

5.3. ADVICE FOR FIREFIGHTERS

Protective actions during firefighting: Do not scatter spilled material with more water than needed to fight the fire. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal precautions: No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Wear protective clothing, gloves, eye and face protection.

6.2. ENVIRONMENTAL PRECAUTIONS

Environmental precautions: The product contains substances which are insoluble in water and which may spread on water surfaces. The product is not expected to be hazardous to wastewater treatment processes.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Methods for cleaning up: No smoking, sparks, flames or other sources of ignition near spillage. Contain and absorb spillage with sand, earth or other non-combustible material. Collect and place in suitable waste disposal containers and seal securely.

6.4. REFERENCE TO OTHER SECTIONS

Reference to other sections: For personal protection, see Section 8.

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Advice on safe handling: Avoid spilling, skin and eye contact. Do not use contact lenses. Keep away from heat, sparks and open flame. Static electricity and formation of sparks must be prevented. Use explosion proof electric equipment. Eye wash facilities and emergency shower must be available when handing this product. During application and drying, solvent vapours will be emitted.

Usage precautions: Wear protective clothing as described in Section 8 of this safety data sheet.

Advice on general occupational hygiene: Do not eat, drink or smoke when using this product.

Temperature Class: T2

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage precautions: Store in tightly-closed, original container in a dry, cool and well-ventilated place.

Storage class: Flammable liquid storage.

7.3. SPECIFIC END USE(S)

Specific end use(s): For further information, see attached Exposure Scenario.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS OCCUPATIONAL EXPOSURE LIMITS

ETHANOL

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 1920 mg/m³
Short-term exposure limit (15-minute): WEL

BUTANONE

Long-term exposure limit (8-hour TWA): WEL 200 ppm(Sk) 600 mg/m3(Sk)
Short-term exposure limit (15-minute): WEL 300 ppm(Sk) 899 mg/m3(Sk)

Isopropanol; Propan-2-ol

Long-term exposure limit (8-hour TWA): WEL 400 ppm 999 mg/m³
Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m³
WEL = Workplace Exposure Limit

ETHANOL (CAS: 64-17-5)	
DNEL	Potential health effects: Long-term systemic effects Workers: Skin Contact: DNEL: 343 mg/kg; Inhalation: DNEL: 950 mg/m3 Consumers: Skin Contact: DNEL: 206 mg/kg; Inhalation: DNEL: 114 mg/m3; Ingestion: DNEL: 87 mg/kg
PNEC	Fresh Water: 0.96 mg/l | Marine Water: 0.79 mg/l | Fresh Water Sediment: 3.6 mg/kg | Soil: 0.63 mg/kg | Waste water treatment plant: 580 mg/l
BUTANONE (CAS: 78-93-3)	
Biological limit values	ACGIH TLV (8-hour) 200 ppm 590 mg/m3 ACGIH STEL (short Term Exposure Limit) 300 ppm 885 mg/m3 OSHA PEL (Permissible Exposure Limit) 200 ppm 590 mg/m3
Isopropanol; Propan-2-ol (CAS: 67-63-0)	
Ingredient comments	WEL = Workplace Exposure Limits
DNEL	Potential health effects: Long-term systemic effects Workers: Skin Contact: DNEL: 888 mg/kg; Inhalation: DNEL: 500 mg/m3 Consumers: Skin Contact: DNEL: 319 mg/kg; Inhalation: DNEL: 89 mg/m3; Ingestion: DNEL: 26 mg/kg
PNEC	Fresh Water: 140.9 mg/l | Marine Water: 140.9 mg/l | Fresh Water Sediment: 552 mg/kg | Marine Sediment: 552 mg/kg | Soil: 28 mg/kg

8.2. EXPOSURE CONTROLS

Protective equipment

Appropriate engineering controls: Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of vapours.

Eye/face protection: Contact lenses should not be worn when working with this chemical. Wear tight-fitting, chemical splash goggles or face shield.

Hand protection: Gloves suitable for permanent contact: Nitrile Rubber (Break through time: >480 min, material thickness: 0.35 mm) or Butyl-Rubber (Break through time: >480 min, material thickness: 0.5 mm)

Gloves suitable for splash protection: Polychloroprene (Break through time: >240 min, material thickness: 0.5 mm)

Unsuitable gloves: Natural rubber/ natural latex; polyvinylchloride.

Other skin and body protection: Wear anti-static protective clothing if there is a risk of ignition from static electricity.

Hygiene measures: Provide eyewash station and safety shower. Wash after use and before eating, smoking and using the toilet.

Respiratory protection: No personal respiratory protective equipment normally required. In inadequately ventilated areas, where workplace limits are exceeded, where unpleasant odours exist or where aerosols are in use, or smoke and mist occur, use self-contained breathing apparatus type A filter or appropriate combined filter (e.g. where aerosols are in use, or smoke and mist occur, A-P2 or ABEK-P2), in compliance with EN 141.

Environmental exposure controls: Do not flush into surface water or sanitary sewer system.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid.
Colour	Colourless.
Odour	Alcoholic.
Odour threshold	No information available.
pH	7, content: 10.00 g/l, 20 °C
Melting point	No information available.
Initial boiling point and range	78.2 °C @ 760 mm Hg | EtOH 100
Flash point	12°C Closed cup.
Evaporation rate	No information available.
Evaporation factor	Not determined.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	Lower: 3.5 %(V) | Upper: 15 %(V)
Other flammability	No information available.
Vapour pressure	No information available.
Relative density	No information available.
Bulk density	No information available.
Solubility(ies)	Completely soluble in water.
Auto-ignition temperature	363°C
Decomposition Temperature	Distills without decomposition at atmospheric pressure.
Explosive properties	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

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Explosive under the influence of a flame: No

Oxidising properties: Does not meet the criteria for classification as oxidising.

Comments: Information given is applicable to the product as supplied.

9.2. OTHER INFORMATION
Particle size: Not applicable.
Volatility: Volatile.
Critical temperature: Not applicable.

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY
Reactivity: Vapours may form explosive mixture with air.
Vapours may form explosive mixture with air.

10.2. CHEMICAL STABILITY
Stability: No particular stability concerns.
No decomposition if stored and applied as directed.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS
Possibility of hazardous reactions: In use may form flammable/ explosive vapour-air mixture.

10.4. CONDITIONS TO AVOID
Conditions to avoid: Keep away from heat, sparks and open flame.
Extremes of temperature and direct sunlight.

10.5. INCOMPATIBLE MATERIALS
Materials to avoid Alkali metals. Acid anhydrides.
Oxidising agents.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous decomposition products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.
None known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

Skin corrosion/irritation
Skin corrosion/irritation: Repeated exposure may cause skin dryness or cracking.

Animal data: Rabbit, result: Not irritating, OECD Test Guideline 404, (literature value)

Serious eye damage/irritation
Serious eye damage/irritation: Rabbit, result: Irritating, OECD Test Guidline 405, (literature value)

Respiratory sensitisation
Respiratory sensitisation: Maximisation Test (GPMT), guinea pig, Result: not sensitizing, OECD Test Guideline 406, (Literature value)

Skin sensitisation
Skin sensitisation: Based on available data the classification criteria are not met.

Germ cell mutagenicity
Genotoxicity - in vitro: Ames test, Salmonella typhimurium, with and without, Result: not mutagenic, OECD Test Guidline 471, (literature data)

Genotoxicity - in vivo: Based on available data the classification criteria are not met.

Carcinogenicity
Carcinogenicity: Based on available data the classification criteria are not met.

Reproductive toxicity
Reproductive toxicity - fertility: Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure
STOT - single exposure: Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure: rat, Oral, Exposure time: 90-day, NOAEL: 1,730 mg/kg, LOAEL: 3,160 mg/kg

Aspiration hazard
Aspiration hazard: Based on available data the classification criteria are not met.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: The product is not expected to be hazardous to the environment.

12.1. TOXICITY
Acute aquatic toxicity
Acute toxicity - fish: LC50: > 100 mg/l, 48 h, leuciscus idus, static test, OECD Test Guidline 203, (literature value).

Acute toxicity - aquatic invertebrates: EC50: > 100 mg/l, 24 h, Daphnia magna, static test, OECD Test Guidline 202, (literature value).

Acute toxicity - aquatic plants: EC50: > 100mg/l, Chlorella pyrenoidosa, static test, OECD Test Guideline 201, (literature value).

Acute toxicity microorganisms: 6,500 mg/l, 16h, Pseudomonas putida, aquatic, Analytical monitoring: no, other, test substance: no data.

12.2. PERSISTENCE AND DEGRADABILITY
Persistence and degradability: The product is biodegradable but it must not be discharged into drains without permission from the authorities.

Phototransformation: No information available.

Stability (hydrolysis): No information available.

Biodegradation: Aerobic, >70 %, Result: Readily biodegradable. Exposure time: 5 d, OECD Test Guideline 301 D, GLP: no, (literature value).

Biological oxygen demand: No information available.

Chemical oxygen demand: ca. 1,700 mg/g, Directive 84/449/EEC, C.9, GLP: no data

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12.3. BIOACCUMULATIVE POTENTIAL
Bioaccumulative potential: The product does not contain any substances expected to be bioaccumulating.

12.4. MOBILITY IN SOIL
Mobility: The product is soluble in water.

Adsorption/desorption coefficient: No information available.

Henry's law constant: No information available.

12.5. RESULTS OF PBT AND VPVB ASSESSMENT
Results of PBT and vPvB: This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6. OTHER ADVERSE EFFECTS

SECTION 13: DISPOSAL CONSIDERATIONS
13.1.WASTE TREATMENT METHODS
General information: Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority.

Disposal methods: Absorb in vermiculite or dry sand and dispose of at a licenced hazardous waste collection point. Avoid using water to clean any waste. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of the local water authority.

SECTION 14: TRANSPORT INFORMATION
14.1. UN NUMBER

UN No. (ADR/RID)	1170
UN No. (IMDG)	1170
UN No. (ICAO)	1170
UN No. (ADN)	1170

14.2. UN PROPER SHIPPING NAME

Proper shipping name (ADR/RID): ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

Proper shipping name (IMDG): ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

Proper shipping name (ICAO): ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

Proper shipping name (ADN): ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

14.3. TRANSPORT HAZARD CLASS(ES)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3
Transport labels	

14.4. PACKING GROUP

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II
ADN packing group	II

14.5. ENVIRONMENTAL HAZARDS
Environmentally hazardous substance/marine pollutan: No.

14.6. SPECIAL PRECAUTIONS FOR USER

EmS	F-E, S-D
ADR transport category	2
Emergency Action Code	•2YE
Hazard Identification Number (ADR/RID)	33
Tunnel restriction code	(D/E)

14.7. TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL AND THE IBC CODE
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

SECTION 15: REGULATORY INFORMATION
15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE
National regulations: This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

Guidance 96/82/EC | Highly Flammable
Quantity 1: 5,000 t | Quantity 2: 50,000 t

15.2. CHEMICAL SAFETY ASSESSMENT
A chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS
This substance has been registered according to Regulation (EC) No. 1907/2006 (REACH)

Canada - DSL/NDSL
All components of this product are on the Canadian DSL list.

US - TSCA
On TSCA Inventory

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SECTION 16: OTHER INFORMATION

Abbreviations and acronyms used in the safety data sheet	ATE: Acute Toxicity Estimate. ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways. CAS: Chemical Abstracts Service. DNEL: Derived No Effect Level. IMDG: International Maritime Dangerous Goods. LC_{50}: Lethal Concentration to 50 % of a test population. PBT: Persistent, Bioaccumulative and Toxic substance. vPvB: Very Persistent and Very Bioaccumulative. PNEC: Predicted No Effect Concentration. REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006. RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail. MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. EC_{50}: 50% of maximal Effective Concentration. LOAEL: Lowest Observed Adverse Effect Level. NOAEL: No Observed Adverse Effect Level. UN: United Nations. IBC: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code).
Classification abbreviations and acronyms	Eye Irrit. = Eye irritation Flam. Liq. = Flammable liquid
Issued by	Technical & Quality Manager
Revision date	10/08/2018
Revision	10
Supersedes date	10/08/2018
SDS number	10027
SDS status	Approved.
Hazard statements in full	H225 Highly flammable liquid and vapour. H302 Harmful if swallowed. H312 Harmful in contact with skin. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H413 May cause long lasting harmful effects to aquatic life.
Signature	SC
Identified Uses: Industrial Uses	Manufacture, distribution, formulation, use in non spray applications, use in spray applications, use as laboratory agent, heat transfer fluid or other functional fluid.
Identified Uses: Professional Uses	Use in non spray applications, use in spray applications, use as laboratory agent, heat transfer fluid or other functional fluid.
Identified Uses: Consumer Uses	Domestic fuel, use in products, enclosed systems, use in coatings and paints, use in antifreeze, de-icing, screenwash products, cleaning products.

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