



# Denatured Ethanol (Anhydrous)

## Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 11/15/2018

Supersedes: 03/06/2015

Version: 1.1

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product name : Denatured Ethanol (Anhydrous)

Product form : Mixture

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

#### 1.3. Details of the supplier of the safety data sheet

Archon Refinery, LLC

Archon Trading Company

Archon LLC

201 East Fifth Street, Suite 800, Cincinnati Oh 45202

#### 1.4. Emergency telephone number

(Archon reference number: 225708)

### SECTION 2: Hazards identification

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

##### GHS-US classification

Flam. Liq. 2 H225

Muta. 1B H340

Carc. 1A H350

#### 2.2. Label elements

##### GHS-US labelling

Hazard pictograms (GHS-US)

:



GHS02



GHS08

Signal word (GHS-US)

: **Danger**

Hazard statements (GHS-US)

: H225 - Highly flammable liquid and vapor

H340 - May cause genetic defects

H350 - May cause cancer

Precautionary statements (GHS-US)

: P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P210 - Keep away from heat, open flames, sparks. - No smoking

P233 - Keep container tightly closed

P240 - Ground/bond container and receiving equipment

P241 - Use explosion-proof electrical, lighting, ventilating equipment

P242 - Use only non-sparking tools

P243 - Take precautionary measures against static discharge

P280 - Wear eye protection, face protection, protective clothing, protective gloves

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water/shower

P308+P313 - If exposed or concerned: Get medical advice/attention

P370+P378 - In case of fire: Use carbon dioxide (CO<sub>2</sub>), dry extinguishing powder, foam to extinguish

P403+P235 - Store in a well-ventilated place. Keep cool

P405 - Store locked up

P501 - Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

No data available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

# Denatured Ethanol (Anhydrous)

## Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 3.2. Mixture

| Name                           | Product identifier  | %       |
|--------------------------------|---------------------|---------|
| Ethyl alcohol                  | (CAS No) 64-17-5    | 95      |
| Gasoline, natural gas, natural | (CAS No) 68425-31-0 | 5       |
| Benzene                        | (CAS No) 71-43-2    | 0.1 - 1 |

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.
- First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.
- First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. If pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.
- First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention immediately.

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

- Symptoms/injuries : May cause genetic defects. May cause cancer.
- Symptoms/injuries after inhalation : May cause respiratory irritation.
- Symptoms/injuries after skin contact : May cause skin irritation.
- Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.
- Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.
- Chronic symptoms : May cause genetic defects. May cause cancer.

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

No additional information available.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Foam. Carbon dioxide. Dry powder. Sand.

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

- Fire hazard : Highly flammable liquid and vapor.
- Explosion hazard : Heating may cause an explosion.
- Reactivity : No dangerous reactions known under normal conditions of use.

### 5.3. Advice for firefighters

- Precautionary measures fire : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus.

## SECTION 6: Accidental release measures

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

- General measures : Evacuate area. Ventilate area. Keep upwind. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

#### 6.1.1. For non-emergency personnel

- Protective equipment : Wear Protective equipment as described in Section 8.
- Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

- Protective equipment : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

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

- For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

# Denatured Ethanol (Anhydrous)

## Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Methods for cleaning up

: Eliminate ignition sources. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Sweep or shovel spills into appropriate container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation.

### 6.4. Reference to other sections

See Sections 8 and 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling

: Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Use appropriate personal protection equipment (PPE). Immediately rinse contaminated clothing thoroughly with water. Use only in well-ventilated areas. Avoid breathing vapors, mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Use explosion-proof equipment. 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

Storage conditions

: Store in a dry, cool and well-ventilated place. Keep the container tightly closed. Store in original container. Keep away from ignition sources.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| Ethyl alcohol (64-17-5)                     |                          |
|---------------------------------------------|--------------------------|
| ACGIH STEL (ppm)                            | 1000                     |
| OSHA PEL (TWA) (mg/m <sup>3</sup> )         | 1900                     |
| OSHA PEL (TWA) (ppm)                        | 1000                     |
| Benzene (71-43-2)                           |                          |
| ACGIH TWA (ppm)                             | 0.5                      |
| ACGIH STEL (ppm)                            | 2.5                      |
| OSHA PEL (TWA) (ppm)                        | 1                        |
| OSHA PEL (STEL) (ppm)                       | 5 (see 29 CFR 1910.1028) |
| OSHA PEL (Ceiling) (ppm)                    | 25                       |
| Gasoline, natural gas, natural (68425-31-0) |                          |
| Remark (ACGIH)                              | OELs not established     |
| Remark (OSHA)                               | OELs not established     |

### 8.2. Exposure controls

Appropriate engineering controls

: Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

: Gloves. Protective goggles. Wear chemically impervious apron over labcoat and full coverage clothing.



Hand protection

: Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. . Suitable gloves for this specific application can be recommended by the glove supplier.

Eye protection

: Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.

Skin and body protection

: Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Respiratory protection

: Use NIOSH-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

## SECTION 9: Physical and chemical properties

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

Physical state

: Liquid

Appearance

: Colorless watery liquid.

# Denatured Ethanol (Anhydrous)

## Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

|                                            |                                             |
|--------------------------------------------|---------------------------------------------|
| Color                                      | : Colourless. White.                        |
| Odor                                       | : mild. Fragrant odor.                      |
| Odor Threshold                             | : No data available                         |
| pH                                         | : No data available                         |
| Relative evaporation rate (butylacetate=1) | : 1.9                                       |
| Melting point                              | : No data available                         |
| Freezing point                             | : No data available                         |
| Boiling point                              | : 78.5 °C (For Ethyl alcohol)               |
| Flash point                                | : 9.4 °C (49 °F) (Tag open Cup ASTM D-1310) |
| Auto-ignition temperature                  | : No data available                         |
| Decomposition temperature                  | : No data available                         |
| Flammability (solid, gas)                  | : No data available                         |
| Vapor pressure                             | : 43.9 mm Hg @ 20 °C (68 °F)                |
| Relative vapor density at 20 °C            | : 1.59 (air = 1) (For Ethyl alcohol)        |
| Relative density                           | : 0.793 @ 15.5 °C (60 °F)                   |
| Solubility                                 | : Water: Infinite                           |
| Log Pow                                    | : No data available                         |
| Log Kow                                    | : No data available                         |
| Viscosity, kinematic                       | : No data available                         |
| Viscosity, dynamic                         | : No data available                         |
| Explosive properties                       | : No data available                         |
| Oxidising properties                       | : No data available                         |
| Explosive limits                           | : 3.3 - 19 vol % (For Ethyl alcohol)        |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No dangerous reactions known under normal conditions of use.

### 10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

Avoid contact with : Ignition sources. Heat. Sparks. Open flame.

### 10.5. Incompatible materials

Oxidizing agent.

### 10.6. Hazardous decomposition products

None known.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

| Ethyl alcohol (64-17-5)    |                       |
|----------------------------|-----------------------|
| LC50 inhalation rat (mg/l) | 124.7 mg/l/4h         |
| Benzene (71-43-2)          |                       |
| LD50 dermal rabbit         | > 8200 mg/kg          |
| LC50 inhalation rat (mg/l) | 44.66 mg/l/4h (vapor) |

|                                   |                              |
|-----------------------------------|------------------------------|
| Skin corrosion/irritation         | : Not classified             |
| Serious eye damage/irritation     | : Not classified             |
| Respiratory or skin sensitisation | : Not classified             |
| Germ cell mutagenicity            | : May cause genetic defects. |
| Carcinogenicity                   | : May cause cancer.          |

| Ethyl alcohol (64-17-5) |                            |
|-------------------------|----------------------------|
| IARC group              | 1 - Carcinogenic to humans |

# Denatured Ethanol (Anhydrous)

## Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| Benzene (71-43-2)                        |                             |
|------------------------------------------|-----------------------------|
| IARC group                               | 1 - Carcinogenic to humans  |
| National Toxicology Program (NTP) Status | 2 - Known Human Carcinogens |

|                                                    |                                                            |
|----------------------------------------------------|------------------------------------------------------------|
| Reproductive toxicity                              | : Not classified                                           |
| Specific target organ toxicity (single exposure)   | : Not classified                                           |
| Specific target organ toxicity (repeated exposure) | : Not classified                                           |
| Aspiration hazard                                  | : Not classified                                           |
| Symptoms/injuries after inhalation                 | : May cause respiratory irritation.                        |
| Symptoms/injuries after skin contact               | : May cause skin irritation.                               |
| Symptoms/injuries after eye contact                | : Direct contact with the eyes is likely to be irritating. |
| Symptoms/injuries after ingestion                  | : May be fatal if swallowed and enters airways.            |
| Chronic symptoms                                   | : May cause genetic defects. May cause cancer.             |

### SECTION 12: Ecological information

#### 12.1. Toxicity

|                   |                             |
|-------------------|-----------------------------|
| Ecology - general | : No information available. |
|-------------------|-----------------------------|

#### 12.2. Persistence and degradability

| Denatured Ethanol (Anhydrous) |                           |
|-------------------------------|---------------------------|
| Persistence and degradability | No information available. |

#### 12.3. Bioaccumulative potential

| Denatured Ethanol (Anhydrous) |                           |
|-------------------------------|---------------------------|
| Bioaccumulative potential     | No information available. |

#### 12.4. Mobility in soil

| Denatured Ethanol (Anhydrous) |                           |
|-------------------------------|---------------------------|
| Ecology - soil                | No information available. |

#### 12.5. Other adverse effects

|                       |                      |
|-----------------------|----------------------|
| Other adverse effects | : No data available. |
|-----------------------|----------------------|

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

|                                |                                                                                                                                         |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Waste treatment methods        | : Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.                                |
| Waste disposal recommendations | : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment. |

### SECTION 14: Transport information

|                                                   |                                                                 |
|---------------------------------------------------|-----------------------------------------------------------------|
| In accordance with DOT                            |                                                                 |
| Transport document description                    | : NA1987 Denatured alcohol, 3, II                               |
| DOT NA no.                                        | : NA1987                                                        |
| Proper Shipping Name (DOT)                        | : Denatured alcohol                                             |
| Department of Transportation (DOT) Hazard Classes | : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120 |
| Hazard labels (DOT)                               | : 3 - Flammable liquid                                          |



|                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packing group (DOT)                                              | : II - Medium Danger                                                                                                                                                                                                                                                                                                                                                                                  |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : 5 L                                                                                                                                                                                                                                                                                                                                                                                                 |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)     | : 60 L                                                                                                                                                                                                                                                                                                                                                                                                |
| DOT Vessel Stowage Location                                      | : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded. |

# Denatured Ethanol (Anhydrous)

## Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### Additional information

Other information : No supplementary information available.

### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

| Denatured Ethanol (Anhydrous)                                                                                                                                                                                                                        |                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory<br>All the constituents of this preparation are registered in the EINECS inventory or in the ELINCS list |                                                |
| SARA Section 311/312 Hazard Classes                                                                                                                                                                                                                  | Delayed (chronic) health hazard<br>Fire hazard |

| Benzene (71-43-2)     |                               |
|-----------------------|-------------------------------|
| Section 302 (EHS) TPQ |                               |
| Section 304 EHS RQ    |                               |
| CERCLA RQ             | 10 lb                         |
| Section 313           | Listed on US SARA Section 313 |

### 15.2. International regulations

#### CANADA

| Unleaded Gasoline (NO Ethanol)                                                                    |
|---------------------------------------------------------------------------------------------------|
| All chemical substances in this product are listed on the Canadian DSL (Domestic Substances List) |

### 15.3. US State regulations

#### California Proposition 65

WARNING! This product contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

| Ethyl alcohol (64-17-5)                               |                                                             |                                                                     |                                                                   |                                   |
|-------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significance risk level (NSRL) |
| No                                                    | Yes                                                         | No                                                                  | No                                                                | Not available                     |

| Benzene (71-43-2)                                     |                                                             |                                                                     |                                                                   |                                             |
|-------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significance risk level (NSRL)           |
| Yes                                                   | Yes                                                         | No                                                                  | Yes                                                               | 6.4 (oral) µg/day<br>13 (inhalation) µg/day |

| Ethyl alcohol (64-17-5)                                                                                                                                   |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |  |

| Benzene (71-43-2)                                                                                                                                                                                                                                            |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances<br>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List |  |

| Gasoline, natural gas, natural (68425-31-0)    |  |
|------------------------------------------------|--|
| U.S. - Pennsylvania - RTK (Right to Know) List |  |

# Denatured Ethanol (Anhydrous)

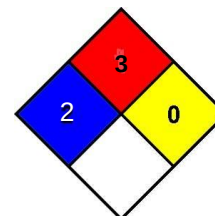
## Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 16: Other information

Indication of changes : Revision 1.1: SDS Revised.  
Revision date : 02/18/2016  
Other information : Author: BCS.

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.  
NFPA fire hazard : 3 - Can be ignited under almost all ambient temperature conditions.  
NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



#### HMIS III Rating

Health : 2\*  
Flammability : 3  
Physical : 0  
Personal Protection :

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