

Safety Data Sheet

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

Revision date: 07/18/2014

Version: 1.0

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

1.1. Product identifier

| | |
|----------------|---|
| Product form | : Substance |
| Substance name | : ALCOHOL FOR DNA/RNA, 200 PROOF, FILTERED |
| CAS No | : 64-17-5 |
| Product code | : AB00515 |
| Formula | : C ₂ H ₆ O |
| Synonyms | : 1-hydroxyethane / absolute ethanol / alcohol / alcohol C2 / alcohol,absolute / alcohol,anhydrous / alcohol,dehydrated / algrain / anhydrol(=ethanol) / cologne spirit / cologne spirits / ethanol (ethyl alcohol) / ethanol 200 proof / ethanol,absolute / ethicap / ethyl alcohol,anhydrous / ethyl hydrate / ethyl hydroxide / ethylic alcohol / fermentation alcohol / grain alcohol / hydrated oxide of ethyl / IMS grades (=ethanol) / industrial alcohol / jaysol / jaysol S / methylated spirit(=ethanol) / methylcarbinol / molasses alcohol / neutral spirits / potable spirits / potato alcohol / proof spirits / rectified spiritus / SD alcohol 23-hydrogen / silent spirit / spirit / spirit of wine / spirits of wine / spirt / tecsol / Tecsol C |

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

| | |
|------------------------------|---|
| Use of the substance/mixture | : Laboratory use/Manufacturing component/Research |
| Use of the substance/mixture | : Food industry: component Chemical raw material Cosmetic product: component Pharmaceutical product: component Detergent: component |

1.3. Details of the supplier of the safety data sheet

AmericanBio, Inc.
 15 Erie Dr.
 Natick, MA 01760 - USA
 T 800.443.0600 - F 508.655.2754
info@americanbio.com - www.americanbio.com

1.4. Emergency telephone number

Emergency number : 855.835.2572 (U.S.) :: 760.602.8703 (Outside U.S.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Liq. 2 H225
 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 vapour 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 open flames, sparks. - No smoking P233 - Keep container tightly closed P240 - Ground/bond container and receiving equipment P241 - Use explosion-proof electrical equipment P242 - Use only non-sparking tools P243 - Take precautionary measures against static discharge P280 - Wear eye protection, protective clothing, protective gloves |

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P303+P361+P353 - IF ON SKIN (or hair): Remove/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 Evacuate area for extinction
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to Collect all waste in suitable and labelled containers and dispose according to local legislation

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

| Name | Product identifier | % | GHS-US classification |
|--|--------------------|-----|--------------------------------------|
| ALCOHOL FOR DNA/RNA, 200 PROOF, FILTERED (Main constituent) | (CAS No) 64-17-5 | 100 | Flam. Liq. 2, H225 Carc. 1A, H350 |

Full text of H-phrases: 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. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give alcohol to drink. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation | : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. Assure fresh air breathing. Allow the victim to rest. |
| First-aid measures after skin contact | : Rinse with water. Take victim to a doctor if irritation persists. Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. |
| First-aid measures after eye contact | : Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist. |
| First-aid measures after ingestion | : Rinse mouth with water. Do not induce vomiting. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. |

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

| | |
|--------------------------------------|---|
| Symptoms/injuries after inhalation | : EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Respiratory difficulties. Central nervous system depression. Symptoms similar to those listed under ingestion. May cause cancer by inhalation. |
| Symptoms/injuries after skin contact | : Slight irritation. |
| Symptoms/injuries after eye contact | : Redness of the eye tissue. Lacrimation. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the eye tissue. |
| Symptoms/injuries after ingestion | : AFTER ABSORPTION OF HIGH QUANTITIES: Risk of aspiration pneumonia. Red skin. Body temperature rise. Damp/clammy skin. Excited/restless. Accelerated heart action. Central nervous system depression. Dizziness. Narcosis. Headache. Drunkenness. Nausea. Vomiting. Disturbed motor response. Coordination disorders. Visual disturbances. Impaired concentration. Delusions. Disturbed sensation of pain. Disturbances of heart rate. Disturbances of consciousness. Tremor. Cramps/uncontrolled muscular contractions. Dilated pupils. |
| 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. Mental confusion. Disturbed tactile sensibility. Tremor. Affection of the bone marrow. Affection of the endocrine system. Weakening of the immune system. |

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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 : Water spray. Alcohol-resistant foam. BC powder. Carbon dioxide. Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Solid water jet ineffective as extinguishing medium. Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : DIRECT FIRE HAZARD. Highly flammable. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD. May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard. Reactions involving a fire hazard: see "Reactivity Hazard". Highly flammable liquid and vapour.
- Explosion hazard : DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD. may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard". May form flammable/explosive vapour-air mixture.
- Reactivity : Upon combustion: CO and CO₂ are formed. Reacts violently with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids.

5.3. Advice for firefighters

- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.
- Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.

6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Protective goggles. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus.
- Emergency procedures : Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes. Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent spreading in sewers. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapour with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.
- Methods for cleaning up : Take up liquid spill into a non combustible material e.g.: sand, earth, vermiculite or kieselguhr, powdered limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.
- Precautions for safe handling : Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. 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. Observe normal hygiene standards. Keep container tightly closed. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. No naked lights. No smoking. Use only non-sparking tools. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof equipment. Proper grounding procedures to avoid static electricity should be followed.
- Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight. Keep in fireproof place. Keep container tightly closed.
- Incompatible products : Strong bases. Strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.
- Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
- Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. water/moisture.
- Storage area : Keep out of direct sunlight. Store in a dry area. Ventilation at floor level. Fireproof storeroom. Provide for an automatic sprinkler system. Provide for a tub to collect spills. Provide the tank with earthing. Meet the legal requirements.
- 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: stainless steel. aluminium. iron. copper. nickel. synthetic material. glass.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

- Personal protective equipment : Avoid all unnecessary exposure.
- Materials for protective clothing : GIVE EXCELLENT RESISTANCE: butyl rubber. viton. GIVE GOOD RESISTANCE: neoprene. tetrafluoroethylene. GIVE LESS RESISTANCE: nitrile rubber. polyethylene. GIVE POOR RESISTANCE: natural rubber. PVA. PVC.
- Hand protection : Gloves. Wear protective gloves.
- Eye protection : Safety glasses. Chemical goggles or safety glasses.
- Skin and body protection : Protective clothing.
- Respiratory protection : Wear gas mask with filter type A if conc. in air > exposure limit. Wear appropriate mask.
- Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Appearance : Liquid.
- Molecular mass : 46.07 g/mol
- Colour : Colourless.
- Odour : Alcohol odour. Pleasant odour.
- Odour threshold : 100 ppm
188 mg/m³
- pH : No data available

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| | |
|---|--|
| Relative evaporation rate (butylacetate=1) | : 2.4 |
| Relative evaporation rate (ether=1) | : 8.3 |
| Melting point | : -115 °C |
| Freezing point | : No data available |
| Boiling point | : 78 °C |
| Flash point | : 13 °C |
| Critical temperature | : 243 °C |
| Self ignition temperature | : 363 °C |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : 59 hPa |
| Vapour pressure at 50 °C | : 300 hPa |
| Critical pressure | : 63840 hPa |
| Relative vapour density at 20 °C | : 1.6 |
| Relative density | : 0.79 |
| Relative density of saturated gas/air mixture | : 1.04 |
| Density | : 790 kg/m ³ |
| Solubility | : Soluble in water. Soluble in ether. Soluble in acetone. Soluble in chloroform. Soluble in oils/fats. Soluble in methanol. Soluble in acids. Water: Complete Ethanol: Not applicable Ether: Complete Acetone: Complete |
| Log Pow | : -0.31 (Experimental value) |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : 0.0012 Pa.s (20 °C) |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits | : 3.3 - 19.0 vol % 67 - 290 g/m ³ |

9.2. Other information

| | |
|--------------------------|--|
| Specific conductivity | : 130000 pS/m |
| Saturation concentration | : 112 g/m ³ |
| VOC content | : 100 % |
| Other properties | : Gas/vapour heavier than air at 20°C. Clear. Hygroscopic. Volatile. Substance has neutral reaction. |

SECTION 10: Stability and reactivity

10.1. Reactivity

Upon combustion: CO and CO₂ are formed. Reacts violently with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids.

10.2. Chemical stability

Hygroscopic. Not established. Highly flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

| ALCOHOL FOR DNA/RNA, 200 PROOF, FILTERED (f)64-17-5 | |
|---|--|
| LD50 oral rat | 10740 mg/kg bodyweight (Rat; Experimental value,Rat; Experimental value) |
| LD50 dermal rabbit | > 16000 mg/kg (Rabbit) |

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

| ALCOHOL FOR DNA/RNA, 200 PROOF, FILTERED (64-17-5) | |
|--|----------------------------|
| IARC group | 1 - Carcinogenic to humans |

Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Respiratory difficulties. Central nervous system depression. Symptoms similar to those listed under ingestion. May cause cancer by inhalation.

Symptoms/injuries after skin contact : Slight irritation.

Symptoms/injuries after eye contact : Redness of the eye tissue. Lacrimation. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the eye tissue.

Symptoms/injuries after ingestion : AFTER ABSORPTION OF HIGH QUANTITIES: Risk of aspiration pneumonia. Red skin. Body temperature rise. Damp/clammy skin. Excited/restless. Accelerated heart action. Central nervous system depression. Dizziness. Narcosis. Headache. Drunkenness. Nausea. Vomiting. Disturbed motor response. Coordination disorders. Visual disturbances. Impaired concentration. Delusions. Disturbed sensation of pain. Disturbances of heart rate. Disturbances of consciousness. Tremor. Cramps/uncontrolled muscular contractions. Dilated pupils.

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. Mental confusion. Disturbed tactile sensibility. Tremor. Affection of the bone marrow. Affection of the endocrine system. Weakening of the immune system.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Classification concerning the environment: not applicable.

Ecology - air : TA-Luft Klasse 5.2.5.

Ecology - water : Not harmful to fishes (LC50(96h) >1000 mg/l). Not harmful to invertebrates (Daphnia). Slightly harmful to algae (EC50 (72h): 100 - 1000 mg/l). Not harmful to bacteria (EC50 >1000 mg/l). Inhibition of activated sludge.

| ALCOHOL FOR DNA/RNA, 200 PROOF, FILTERED (64-17-5) | |
|--|---|
| LC50 fishes 1 | 14200 mg/l (96 h; Pimephales promelas; Nominal concentration) |
| EC50 Daphnia 1 | 9300 mg/l (48 h; Daphnia magna) |
| LC50 fish 2 | 13000 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss) |
| EC50 Daphnia 2 | 10800 mg/l (24 h; Daphnia magna) |
| Threshold limit other aquatic organisms 1 | 65 mg/l (72 h; Protozoa) |
| Threshold limit algae 1 | 1450 mg/l (192 h; Microcystis aeruginosa; Growth rate) |
| Threshold limit algae 2 | 5000 mg/l (168 h; Scenedesmus quadricauda; Growth rate) |

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12.2. Persistence and degradability

| ALCOHOL FOR DNA/RNA, 200 PROOF, FILTERED (64-17-5) | |
|--|---|
| Persistence and degradability | Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the substance available. Not established. |
| Biochemical oxygen demand (BOD) | 0.8 - 0.967 g O ² /g substance |
| Chemical oxygen demand (COD) | 1.70 g O ² /g substance |
| ThOD | 2.10 g O ² /g substance |
| BOD (% of ThOD) | 0.43 % ThOD |

12.3. Bioaccumulative potential

| ALCOHOL FOR DNA/RNA, 200 PROOF, FILTERED (64-17-5) | |
|--|---|
| Log Pow | -0.31 (Experimental value) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). Not established. |

12.4. Mobility in soil

| ALCOHOL FOR DNA/RNA, 200 PROOF, FILTERED (64-17-5) | |
|--|-------------------|
| Surface tension | 0.022 N/m (20 °C) |

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Remove to an authorized waste incinerator for solvents with energy recovery. Do not discharge into surface water. May be discharged to wastewater treatment installation. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to Remove waste in accordance with local and/or national regulations.

Additional information : LWCA (the Netherlands): KGA category 03. Hazardous waste according to Directive 2008/98/EC. Handle empty containers with care because residual vapours are flammable.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1170 Ethanol, 3, II

UN-No.(DOT) : 1170

DOT NA no. : UN1170

DOT Proper Shipping Name : Ethanol

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

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| | |
|--|--|
| DOT Special Provisions (49 CFR 172.102) | : 24 - Alcoholic beverages containing more than 70 percent alcohol by volume must be transported as materials in Packing Group II. Alcoholic beverages containing more than 24 percent but not more than 70 percent alcohol by volume must be transported as materials in Packing Group III. B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T2 - 1.5 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. |
| DOT Packaging Exceptions (49 CFR 173.xxx) | : 4b;150 |
| DOT Packaging Non Bulk (49 CFR 173.xxx) | : 203 |
| DOT Packaging Bulk (49 CFR 173.xxx) | : 242 |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : 60 L |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | : 220 L |
| DOT Vessel Stowage Location | : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel. |

Additional information

| | |
|----------------------------------|---|
| Other information | : No supplementary information available. |
| State during transport (ADR-RID) | : as liquid. |

ADR

| | |
|---|---|
| Transport document description | : UN 1170 ethanol (ethyl alcohol), 3, II, (D/E) |
| Packing group (ADR) | : II |
| Class (ADR) | : 3 - Flammable liquids |
| Hazard identification number (Kemler No.) | : 33 |
| Classification code (ADR) | : F1 |
| Danger labels (ADR) | : 3 - Flammable liquids |



| | |
|---------------|---|
| Orange plates | : |
|---------------|---|

| | |
|-------------------------|-------|
| Tunnel restriction code | : D/E |
|-------------------------|-------|

Transport by sea

| | |
|---------------|-------------------------|
| UN-No. (IMDG) | : 1170 |
| Class (IMDG) | : 3 - Flammable liquids |
| EmS-No. (1) | : F-E |
| EmS-No. (2) | : S-D |

Air transport

| | |
|----------------------|-------------------------|
| UN-No.(IATA) | : 1170 |
| Class (IATA) | : 3 - Flammable Liquids |
| Packing group (IATA) | : II - Medium Danger |

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SECTION 15: Regulatory information

15.1. US Federal regulations

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Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2 H225

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

F; R11

Full text of R-phrases: see section 16

15.2.2. National regulations

ALCOHOL FOR DNA/RNA, 200 PROOF, FILTERED (64-17-5)

Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

ALCOHOL FOR DNA/RNA, 200 PROOF, FILTERED(64-17-5)

| | |
|----------------------------|--|
| State or local regulations | U.S. - New Jersey - Right to Know Hazardous Substance List |
|----------------------------|--|

SECTION 16: Other information

Other information : None.

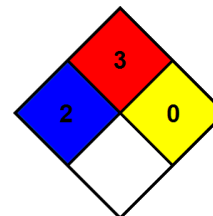
Full text of H-phrases: see section 16:

| | |
|--------------|------------------------------------|
| Carc. 1A | Carcinogenicity, Category 1A |
| Flam. Liq. 2 | Flammable liquids, Category 2 |
| H225 | Highly flammable liquid and vapour |
| H350 | May cause cancer |

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 - Liquids and solids that can be ignited under almost all ambient conditions.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



SDS US (GHS HazCom 2012)

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