

ETHYL ETHER, ANHYDROUS

Safety Data Sheet

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

Revision date: 12/02/2014 Version: 1.0

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

1.1. Product identifier

Product form : Substance
 Trade name : ETHYL ETHER, ANHYDROUS
 CAS No : 60-29-7
 Product code : AB00517
 Formula : C4H10O

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 : Veterinary medicine
 Solvent
 Chemical raw material
 Reagent
 Coolant

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

Classification (GHS-US)

Flam. Liq. 1 H224
 Acute Tox. 4 (Oral) H302
 STOT SE 3 H336

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS02

GHS07

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H224 - Extremely flammable liquid and vapor
 H302 - Harmful if swallowed
 H336 - May cause drowsiness or dizziness

Precautionary statements (GHS-US) :

P210 - Keep away from hot surfaces, 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
 P261 - Avoid breathing fume, gas, mist, spray, vapors
 P264 - Wash hands, forearms and face thoroughly after handling
 P270 - Do not eat, drink or smoke when using this product
 P271 - Use only outdoors or in a well-ventilated area
 P280 - Wear protective gloves, protective clothing, eye protection
 P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable

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for breathing
P312 - Call a POISON CENTER/doctor/physician if you feel unwell
P330 - If swallowed, rinse mouth
P370+P378 - In case of fire: Use water spray/sand/foam for extinction
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to Local/Federal regulations

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	%	Classification (GHS-US)
ETHYL ETHER, ANHYDROUS (Main constituent)	(CAS No) 60-29-7	100	Flam. Liq. 1, H224 Acute Tox. 4 (Oral), H302 STOT SE 3, H336

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. Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.
- First-aid measures after skin contact : Wash immediately with lots of water. Soap may be used. 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. Take victim to an ophthalmologist if irritation persists. Do not apply neutralizing agents. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. 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. Call a POISON CENTER/doctor/physician if you feel unwell.

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

- Symptoms/injuries after inhalation : Paleness. Dry/sore throat. Coughing. Headache. Central nervous system depression. Dizziness. Narcosis. Mental confusion. Excited/restless. EXPOSURE TO HIGH CONCENTRATIONS: Disturbed tactile sensibility. Disturbances of consciousness. Dilation of the blood vessels. Low arterial pressure. Slowing heart action. Change in the haemogramme/blood composition. Possible laryngeal spasm/oedema. Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Nausea. Vomiting. Loss of appetite. May cause drowsiness or dizziness.
- Symptoms/injuries after skin contact : ON CONTINUOUS EXPOSURE/CONTACT: Dry skin. Cracking of the skin.
- Symptoms/injuries after eye contact : Redness of the eye tissue. Lacrimation. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the eye tissue.
- Symptoms/injuries after ingestion : Gastrointestinal complaints. Risk of aspiration pneumonia. Symptoms similar to those listed under inhalation. AFTER ABSORPTION OF HIGH QUANTITIES: Enlargement/affection of the liver. Affection of the renal tissue. Swallowing a small quantity of this material will result in serious health hazard.

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Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Feeling of weakness. Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract. Headache. Impaired concentration. Dizziness. Disturbed tactile sensibility. Sleeplessness. Loss of appetite. Visual disturbances.

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 : Preferably: alcohol resistant foam. Water spray. Polyvalent foam. AFFF foam. BC powder. Carbon dioxide. Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : No unsuitable extinguishing media known. Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Extremely flammable liquid and vapor. DIRECT FIRE HAZARD. Extremely flammable. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD. May build up electrostatic charges: risk of ignition. May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard : DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD. Heat may cause pressure rise in tanks/drums: explosion risk. may be ignited by sparks. May form explosive peroxides. Reactions with explosion hazards: see "Reactivity Hazard". May form flammable/explosive vapor-air mixture.

Reactivity : Upon combustion: CO and CO₂ are formed. On exposure to air: peroxidation resulting in increased fire or explosion risk. This reaction is accelerated on exposure to light and on exposure to impurities. Reacts violently with many compounds e.g.: with (strong) oxidizers and with (some) halogens: heat release resulting in increased fire or explosion risk. Reacts violently with sulphurized compounds.

5.3. Advice for firefighters

Firefighting instructions : If no hazard for/from the surroundings: controlled burning. If hazardous substances are nearby: consider extinguishment. Cool tanks/drums with water spray/remove them into safety. Physical explosion risk: extinguish/cool from behind cover. Do not move the load if exposed to heat. After cooling: persistent risk of physical explosion. 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 clothing. Large spills/in enclosed spaces: compressed air apparatus. See "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 engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Avoid contact with air. Protect substance against light. Wash contaminated clothes. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Avoid breathing dust/fume/gas/mist/vapors/spray.

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. Dilute narcotic gases/vapours with water spray. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.

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- Methods for cleaning up : Take up liquid spill into a non combustible material e.g.: sand/earth 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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.
- Precautions for safe handling : Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle and open the container with care. Cool before opening. 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. Before use: check for peroxides and eliminate them. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No naked lights. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Ground/bond container and receiving equipment.
- Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight., Heat sources., Keep in fireproof place. Keep in fireproof place. Keep container tightly closed.
- Incompatible products : Strong bases. strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.
- Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
- Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: combustible materials. oxidizing agents. (strong) acids. halogens.
- Storage area : Store in a cool area. Store in a dry area. Store in a dark 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. Store only in a limited quantity. Store only in a stabilized state. May be stored under nitrogen. Meet the legal requirements.
- Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. clean. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: steel. aluminium. iron. glass. tin. MATERIAL TO AVOID: zinc.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ETHYL ETHER, ANHYDROUS (60-29-7)		
USA ACGIH	ACGIH TWA (ppm)	400 ppm
USA ACGIH	ACGIH STEL (ppm)	400 ppm

8.2. Exposure controls

- Personal protective equipment : Avoid all unnecessary exposure.
- Materials for protective clothing : GIVE EXCELLENT RESISTANCE: PVA. GIVE GOOD RESISTANCE: tetrafluoroethylene. GIVE POOR RESISTANCE: butyl rubber. natural rubber. neoprene. polyethylene. PVC. viton.
- Hand protection : Gloves. Wear protective gloves.
- Eye protection : Safety glasses. Chemical goggles or safety glasses.

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Skin and body protection	: Head/neck protection. Protective clothing.
Respiratory protection	: Gas mask with filter type AX at conc. in air > exposure limit. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.
Other information	: When using, do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 74.12 g/mol
Color	: Colourless.
Odor	: Medicinal odour.
Odor threshold	: 6.6 - 41 ppm 20 - 125 mg/m ³
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: 11
Relative evaporation rate (ether=1)	: 1
Melting point	: -116 °C
Freezing point	: No data available
Boiling point	: 35 °C
Flash point	: -45 °C (Weight of evidence approach)
Critical temperature	: 193 °C
Self ignition temperature	: 175 °C
Decomposition temperature	: > 550 °C
Flammability (solid, gas)	: No data available
Vapor pressure	: 587 hPa
Vapor pressure at 50 °C	: 1780 hPa
Critical pressure	: 36063 hPa
Relative vapor density at 20 °C	: 2.6
Relative density	: 0.71
Relative density of saturated gas/air mixture	: 1.9
Density	: 713 kg/m ³
Solubility	: Moderately soluble in water. Substance floats in water. Soluble in ethanol. Soluble in acetone. Soluble in chloroform. Soluble in xylene. Soluble in petroleum spirit. Soluble in hydrogenchloride. Soluble in naphtha. Water: 7 g/100ml
Log Pow	: 0.82 - 0.89 (Experimental value)
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 0.00024 Pa.s (20 °C)
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: 2 - 48 vol %

9.2. Other information

Minimum ignition energy	: 0.19 mJ
Specific conductivity	: 30 pS/m
Saturation concentration	: 1776 g/m ³
VOC content	: 100 %
Other properties	: Gas/vapour heavier than air at 20°C. Clear. Highly volatile. Substance has neutral reaction. May generate electrostatic charges.

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SECTION 10: Stability and reactivity

10.1. Reactivity

Upon combustion: CO and CO₂ are formed. On exposure to air: peroxidation resulting in increased fire or explosion risk. This reaction is accelerated on exposure to light and on exposure to impurities. Reacts violently with many compounds e.g.: with (strong) oxidizers and with (some) halogens: heat release resulting in increased fire or explosion risk. Reacts violently with sulfurized compounds.

10.2. Chemical stability

Unstable on exposure to light. Unstable on exposure to air. Not established. Extremely flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Sparks. Heat. Overheating. Open flame.

10.5. Incompatible materials

strong acids. Strong bases.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed.

ETHYL ETHER, ANHYDROUS (l f)60-29-7	
LD50 oral rat	1215 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 1600 mg/kg bodyweight; Rat)
LD50 dermal rabbit	> 14200 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	99 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	32000 ppm/4h (Rat)

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : May cause drowsiness or dizziness.

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. Harmful if swallowed.

Symptoms/injuries after inhalation : Paleness. Dry/sore throat. Coughing. Headache. Central nervous system depression. Dizziness. Narcosis. Mental confusion. Excited/restless. EXPOSURE TO HIGH CONCENTRATIONS: Disturbed tactile sensibility. Disturbances of consciousness. Dilation of the blood vessels. Low arterial pressure. Slowing heart action. Change in the haemogramme/blood composition. Possible laryngeal spasm/oedema. Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Nausea. Vomiting. Loss of appetite. May cause drowsiness or dizziness.

Symptoms/injuries after skin contact : ON CONTINUOUS EXPOSURE/CONTACT: Dry skin. Cracking of the skin.

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

Symptoms/injuries after ingestion : Gastrointestinal complaints. Risk of aspiration pneumonia. Symptoms similar to those listed under inhalation. AFTER ABSORPTION OF HIGH QUANTITIES: Enlargement/affection of the liver. Affection of the renal tissue. Swallowing a small quantity of this material will result in serious health hazard.

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Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Feeling of weakness. Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract. Headache. Impaired concentration. Dizziness. Disturbed tactile sensibility. Sleeplessness. Loss of appetite. Visual disturbances.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Not classified as dangerous for the environment according to the criteria of Directive 67/548/EEC. 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.

Ecology - water : Not harmful to fishes (LC50(96h) >1000 mg/l). Not harmful to invertebrates (Daphnia) (EC50 (48h) > 1000 mg/l).

ETHYL ETHER, ANHYDROUS (60-29-7)	
LC50 fish 1	> 10000 ppm (96 h; Lepomis macrochirus)
EC50 Daphnia 1	165 mg/l (24 h; Daphnia magna)
LC50 fish 2	2560 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 2	1380 mg/l (48 h; Daphnia magna)
TLM fish 1	> 1000 mg/l (96 h; Pisces)
TLM other aquatic organisms 1	> 1000 mg/l (96 h)

12.2. Persistence and degradability

ETHYL ETHER, ANHYDROUS (60-29-7)	
Persistence and degradability	Not readily biodegradable in water. No (test)data on mobility of the substance available. Reacts with air. Not established.
Biochemical oxygen demand (BOD)	0.03 g O ₂ /g substance
Chemical oxygen demand (COD)	0.026 g O ₂ /g substance (KMnO ₄)
ThOD	2.60 g O ₂ /g substance
BOD (% of ThOD)	0.012 % ThOD

12.3. Bioaccumulative potential

ETHYL ETHER, ANHYDROUS (60-29-7)	
BCF fish 1	0.9 - 9.1 (Cyprinus carpio; Test duration: 6 weeks)
Log Pow	0.82 - 0.89 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500). Not established.

12.4. Mobility in soil

ETHYL ETHER, ANHYDROUS (60-29-7)	
Surface tension	0.017 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. Incinerate under surveillance with energy recovery. Do not discharge into surface water. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to Local/Federal regulations.

Additional information : LWCA (the Netherlands): KGA category 06. Hazardous waste according to Directive 2008/98/EC. Handle empty containers with care because residual vapors are flammable.

Ecology - waste materials : Avoid release to the environment.

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SECTION 14: Transport information

In accordance with DOT

Transport document description	: UN1155 Ethyl ether, 3, I
UN-No.(DOT)	: 1155
DOT NA no.	: UN1155
DOT Proper Shipping Name	: Ethyl ether
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)	: I - Great Danger
DOT Special Provisions (49 CFR 172.102)	: T11 - 6 178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 201
DOT Packaging Bulk (49 CFR 173.xxx)	: 243
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 30 L
DOT Vessel Stowage Location	: E - 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, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters"

Additional information

Other information : No supplementary information available.

ADR

Transport document description	: UN 1155, 3, I, (D/E)
Packing group (ADR)	: I
Class (ADR)	: 3 - Flammable liquid
Hazard identification number (Kemler No.)	: 33
Classification code (ADR)	: F1
Danger labels (ADR)	: 3 - Flammable liquids



Orange plates	: An orange rectangular label with a black border, divided into two horizontal sections. The top section contains the number '33' and the bottom section contains the number '1155'.
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Tunnel restriction code : D/E

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Transport by sea

UN-No. (IMDG) : 1155
Class (IMDG) : 3 - Flammable liquids
EmS-No. (1) : F-E
EmS-No. (2) : S-D

Air transport

UN-No.(IATA) : 1155
Class (IATA) : 3 - Flammable Liquids
Packing group (IATA) : I - Great Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

ETHYL ETHER, ANHYDROUS (60-29-7)

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

RQ (Reportable quantity, section 304 of EPA's List of Lists) :	100 lb
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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. 1 H224
Acute Tox. 4 (Oral) H302
STOT SE 3 H336

Full text of H-phrases: see section 16

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

F+; R12
Xn; R22
R19
R66
R67

Full text of R-phrases: see section 16

15.2.2. National regulations

No additional information available

15.3. US State regulations

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State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
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SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Flam. Liq. 1	Flammable liquids Category 1

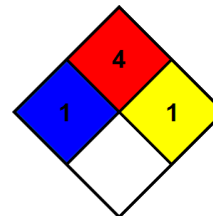
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STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H224	Extremely flammable liquid and vapor
H302	Harmful if swallowed
H336	May cause drowsiness or dizziness

- NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
- NFPA fire hazard : 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.
- NFPA reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



SDS US (GHS HazCom 2012)

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