

SAFETY DATA SHEET

1. Identification

Product identifier	Denatured Fuel Ethanol
Other means of identification	005
SDS number	035
Synonyms	See section 16 for complete information.
Recommended use	Motor Fuel Refinery feedstock.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/	Distributor information
Manufacturer/Supplier	Valero Marketing & Supply Company and Affiliates One Valero Way San Antonio, TX 78269-6000
General Assistance E-Mail	210-345-4593 CorpHSE@valero.com
Contact Person	Industrial Hygienist
Emergency Telephone	24 Hour Emergency 866-565-5220 1-800-424-9300 (CHEMTREC USA)

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Germ cell mutagenicity	Category 1B
	Carcinogenicity	Category 1B
	Reproductive toxicity	Category 2
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child. May be fatal if swallowed and enters airways.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If exposed or concerned: Get medical advice/attention. If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. In case of fire: Use alcohol-resistant foam, carbon dioxide, dry powder or water fog for extinction.
Storage	Store locked up. Store in a well-ventilated place. Keep cool.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Ethanol	64-17-5	95-99
Gasoline (motor Fuel)	86290-81-5	0-5
Gasoline, natural	68425-31-0	0-5
Benzene	71-43-2	<0.1

4. First-aid measures

Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin contact	Remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops or persists. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes. If high pressure injection under the skin occurs, always seek medical attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.
Ingestion	Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Do not give mouth-to-mouth resuscitation. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention immediately.
Most important symptoms/effects, acute and delayed	Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Unconsciousness. Corneal damage. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Conjunctivitis. Proteinuria. Defatting of the skin. Rash.
Indication of immediate medical attention and special treatment needed	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use.
5. Fire-fighting measures	
Suitable extinguishing media	Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	The product is highly flammable, and explosive vapor/air mixtures may be formed even at normal room temperatures. Vapor may cause flash fire. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge. Thermal decomposition or combustion may liberate toxic gases or fumes.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire-fighting equipment/instructions	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Vapors may form explosive air mixtures even at room temperature. Prevent buildup of vapors or gases to explosive concentrations. Some of these materials, if spilled, may evaporate leaving a flammable residue. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.
Specific methods	Use water spray to cool unopened containers.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Local authorities should be advised if significant spills cannot be contained. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment.
Methods and materials for containment and cleaning up	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.
	Use non-sparking tools and explosion-proof equipment.
	Small Spills: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste.
	Large Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Do not allow material to contaminate ground water system. Should not be released into the environment. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area).
Environmental precautions	Gasoline may contain oxygenated blend products (Ethanol, etc.) that are soluble in water and therefore precautions should be taken to protect surface and groundwater sources from contamination. If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Extremely flammable. Review Firefighting Measures, Section 5, before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g. by vacuuming). Stop leak if it can be done without risk. Use water spray to disperse vapors. Use compatible foam to minimize vapor generation as needed. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 1-800-424-8802.
7. Handling and storage	
Precautions for safe handling	Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. Use only with adequate ventilation. Wash thoroughly after handling. The product is extremely flammable, and explosive vapor/air mixtures may be formed even at normal room temperatures. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. When using, do not eat, drink or smoke. Avoid release to the environment.
Conditions for safe storage, including any incompatibilities	equipment. When using, do not eat, drink or smoke. Avoid release to the environment. Flammable liquid storage. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. The pressure in sealed containers can increase under the influence of heat. Keep container tightly closed in a cool, well-ventilated place. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.
8. Exposure controls/perso	

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Туре	Value	
Benzene (CAS 71-43-2)	STEL	5 ppm	
	TWA	1 ppm	

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	-	pe		/alue
Ethanol (CAS 64-17-5)	PE	EL		900 mg/m3
US. OSHA Table Z-2 (29 CF	FR 1910.1000)		1	000 ppm
Components	Ту	pe	١	alue
Benzene (CAS 71-43-2)	Ce	eiling	2	5 ppm
	ΤV	VA	1	0 ppm
US. ACGIH Threshold Limi	it Values			
Components	Ту	ре	١	/alue
Benzene (CAS 71-43-2)	ST	EL	2	.5 ppm
	ΤV	VA	C	.5 ppm
Ethanol (CAS 64-17-5)	ST	EL	1	000 ppm
Gasoline (motor Fuel) (CAS	ST	EL	5	00 ppm
86290-81-5)				00
US NIOSUL Beaket Cuide (VA	C	00 ppm
US. NIOSH: Pocket Guide	to Chemical Hazard	IS		
Components	-	ре	١	/alue
Benzene (CAS 71-43-2)		EL		ppm
	ΤV			.1 ppm
Ethanol (CAS 64-17-5)	TV	VA		900 mg/m3
			i.	000 ppm
ACGIH Biological Exposur Components		Determinant	Specimen	Sampling Time
Components	e Indices Value 25 μg/g	Determinant S-Phenylmerca	Specimen Creatinine	Sampling Time
Components Benzene (CAS 71-43-2)	Value 25 μg/g	S-Phenylmerca pturic acid	-	Sampling Time *
Components Benzene (CAS 71-43-2) * - For sampling details, plea	Value 25 μg/g	S-Phenylmerca pturic acid	Creatinine	Sampling Time *
Components Benzene (CAS 71-43-2) * - For sampling details, plea	Value 25 μg/g ase see the source d	S-Phenylmerca pturic acid	Creatinine	Sampling Time *
Components Benzene (CAS 71-43-2) * - For sampling details, plea posure guidelines US - California OELs: Skin	Value 25 μg/g ase see the source d designation	S-Phenylmerca pturic acid ocument.	Creatinine in urine	*
Components Benzene (CAS 71-43-2) * - For sampling details, plea posure guidelines US - California OELs: Skin Benzene (CAS 71-43-2)	Value 25 μg/g ase see the source d designation	S-Phenylmerca pturic acid ocument. Can be	Creatinine	*
Components Benzene (CAS 71-43-2) * - For sampling details, plea posure guidelines US - California OELs: Skin Benzene (CAS 71-43-2) US ACGIH Threshold Limit	Value 25 μg/g ase see the source d designation t Values: Skin desig	S-Phenylmerca pturic acid ocument. Can be gnation	Creatinine in urine absorbed thro	* bugh the skin.
Components Benzene (CAS 71-43-2) * - For sampling details, plea posure guidelines US - California OELs: Skin Benzene (CAS 71-43-2) US ACGIH Threshold Limit Benzene (CAS 71-43-2)	Value 25 μg/g ase see the source d designation t Values: Skin desig	S-Phenylmerca pturic acid ocument. Can be gnation Can be	Creatinine in urine absorbed thro	* bugh the skin. bugh the skin.
Components Benzene (CAS 71-43-2) * - For sampling details, plea posure guidelines US - California OELs: Skin Benzene (CAS 71-43-2) US ACGIH Threshold Limit	Value 25 μg/g ase see the source d designation t Values: Skin desig Provide adequate ventilation, or oth	S-Phenylmerca pturic acid ocument. Can be gnation Can be e general and local ex	Creatinine in urine absorbed thro absorbed thro haust ventilatio	* bugh the skin.
Components Benzene (CAS 71-43-2) * - For sampling details, plea posure guidelines US - California OELs: Skin Benzene (CAS 71-43-2) US ACGIH Threshold Limit Benzene (CAS 71-43-2) propriate engineering	Value 25 μg/g ase see the source d designation t Values: Skin desig Provide adequate ventilation, or oth limits. Use explos s, such as personal	S-Phenylmerca pturic acid ocument. Can be gnation Can be e general and local ex her engineering contro sion-proof equipment. protective equipment	Creatinine in urine absorbed thro haust ventilation is to control air nt	* bugh the skin. bugh the skin. bon. Use process enclosures, local exhaust borne levels below recommended exposu
Components Benzene (CAS 71-43-2) * - For sampling details, plea posure guidelines US - California OELs: Skin Benzene (CAS 71-43-2) US ACGIH Threshold Limit Benzene (CAS 71-43-2) propriate engineering ntrols	Value 25 μg/g ase see the source d designation t Values: Skin desig Provide adequate ventilation, or oth limits. Use explos s, such as personal	S-Phenylmerca pturic acid ocument. Can be gnation Can be e general and local ex her engineering contro sion-proof equipment. protective equipment	Creatinine in urine absorbed thro haust ventilation is to control air nt	* bugh the skin. bugh the skin. bn. Use process enclosures, local exhaust
Components Benzene (CAS 71-43-2) * - For sampling details, plea posure guidelines US - California OELs: Skin Benzene (CAS 71-43-2) US ACGIH Threshold Limit Benzene (CAS 71-43-2) propriate engineering htrols	Value 25 μg/g ase see the source d designation t Values: Skin desig Provide adequate ventilation, or oth limits. Use explos s, such as personal	S-Phenylmerca pturic acid ocument. Can be gnation Can be e general and local ex her engineering contro sion-proof equipment. protective equipment	Creatinine in urine absorbed thro haust ventilation is to control air nt	* bugh the skin. bugh the skin. bon. Use process enclosures, local exhaust borne levels below recommended exposu
Components Benzene (CAS 71-43-2) * - For sampling details, plea posure guidelines US - California OELs: Skin Benzene (CAS 71-43-2) US ACGIH Threshold Limit Benzene (CAS 71-43-2) propriate engineering ntrols	Value 25 μg/g ase see the source d designation t Values: Skin desig Provide adequate ventilation, or oth limits. Use explos s, such as personal Wear safety glas	S-Phenylmerca pturic acid ocument. Can be gnation Can be e general and local ex er engineering contro sion-proof equipment. protective equipmen ses. If splash potentia	Creatinine in urine absorbed thro haust ventilation to control air nt l exists, wear f	* bugh the skin. bugh the skin. bon. Use process enclosures, local exhaust borne levels below recommended exposu
Components Benzene (CAS 71-43-2) * - For sampling details, plea posure guidelines US - California OELs: Skin Benzene (CAS 71-43-2) US ACGIH Threshold Limit Benzene (CAS 71-43-2) propriate engineering ntrols	Value 25 μg/g ase see the source de designation t Values: Skin desig Provide adequate ventilation, or oth limits. Use explose s, such as personal Wear safety glas Wear chemical-re Frequent change Full body suit and	S-Phenylmerca pturic acid ocument. Can be gnation Can be e general and local ex ier engineering contro sion-proof equipment. protective equipmen ses. If splash potentia esistant, impervious gl is advisable.	Creatinine in urine absorbed thro haust ventilation is to control air nt I exists, wear f oves. Be awar	* bugh the skin. bugh the skin. bon. Use process enclosures, local exhaust borne levels below recommended exposu ull face shield or chemical goggles. e that the liquid may penetrate the gloves dling large volumes or in emergency
Components Benzene (CAS 71-43-2) * - For sampling details, plear posure guidelines US - California OELs: Skin Benzene (CAS 71-43-2) US ACGIH Threshold Limit Benzene (CAS 71-43-2) propriate engineering htrols lividual protection measures Eye/face protection Skin protection Hand protection	Value 25 μg/g ase see the source d designation t Values: Skin desig Provide adequate ventilation, or oth limits. Use explose s, such as personal Wear safety glas Wear chemical-re Frequent change Full body suit and situations. Flame Use a properly fit risk assessment anticipated expos respirator. If work equipment should trained personne	S-Phenylmerca pturic acid ocument. Can be gnation Can be general and local ex- ier engineering contro sion-proof equipment. protective equipment ses. If splash potentia esistant, impervious gl is advisable. d boots are recomment retardant protective of ted, air-purifying or air indicates this is necess sure levels, the hazard cplace exposure limits d be worn. Proper resp I, based on the contar	Creatinine in urine absorbed thro absorbed thro haust ventilation is to control air nt l exists, wear f oves. Be awar ded when har lothing is reco r-fed respirator sary. Respirator sary. Respirator sary. Respirator pirator selection ninants, the de	* bugh the skin. bugh the skin. bon. Use process enclosures, local exhaust borne levels below recommended exposu ull face shield or chemical goggles. e that the liquid may penetrate the gloves dling large volumes or in emergency

Consult supervisor for special handling instructions. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Wash hands before breaks and immediately after handling the product. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

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Appearance	Colorless liquid.
Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	Characteristic Gasoline Odor (Strong).
Odor threshold	Not available.
рН	Not available.
Melting point/freezing point	< -173 °F (< -113.89 °C)
Initial boiling point and boiling range	165 - 175.01 °F (73.89 - 79.45 °C)
Flash point	50.0 - 55.4 °F (10.0 - 13.0 °C) (closed cup)
Evaporation rate	1.7 (butyl acetate = 1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or exp	losive limits
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	1.6
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Soluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	> 689 °F (> 365 °C)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
VOC (Weight %)	100 %
10. Stability and reactivity	
Reactivity	Not available.
Chemical stability	Stable under normal temperature conditions and recommended use.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks. Ignition sources. Contact with incompatible materials. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure Ingestion May be f

May be fatal if swallowed and enters airways.

Inhalation	Inhalation of vapors/fumes generated by heating this product may cause respiratory irritation with throat discomfort, coughing or difficulty breathing.		
Skin contact	Prolonged contact may cause redness, irritation and dry skin.		
Eye contact	May cause eye irritation on direct contact.		
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Unconsciousness. Corneal damage. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Conjunctivitis. Proteinuria. Defatting of the skin. Rash.		
Information on toxicological effe	ects		
Acute toxicity	Harmful: may cause lung	g damage if swallowed.	
Components	Species	Test Results	
Ethanol (CAS 64-17-5)			
Acute			
Inhalation			
LC50	Rat	30000 mg/m3	
Skin corrosion/irritation	Based on available data	a, the classification criteria are not met.	
Serious eye damage/eye irritation	Based on available data	a, the classification criteria are not met.	
Respiratory or skin sensitization			
Respiratory sensitization		a, the classification criteria are not met.	
Skin sensitization	Based on available data	a, the classification criteria are not met.	
Germ cell mutagenicity	May cause genetic defe	cts.	
Carcinogenicity	May cause cancer.		
IARC Monographs. Overall	Evaluation of Carcinoger	nicity	
Benzene (CAS 71-43-2) Gasoline (motor Fuel) (C Gasoline, natural (CAS 6 NTP Report on Carcinogens	68425-31-0)	 Carcinogenic to humans. 2B Possibly carcinogenic to humans. 2B Possibly carcinogenic to humans. 	
Benzene (CAS 71-43-2) US. OSHA Specifically Regu	ulated Substances (29 Cl	Known To Be Human Carcinogen. FR 1910.1001-1050)	
Benzene (CAS 71-43-2)		Cancer	
Reproductive toxicity	Suspected of damaging fertility or the unborn child. Benzene has demonstrated animal effects of reproductive toxicity. Animal studies of benzene have shown testicular effects, alterations in reproductive cycles, chromosomal aberrations and embryo/fetotoxicity. Ethanol has demonstrated human effects of reproductive toxicity.		
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.		
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.		
Aspiration hazard	May be fatal if swallowed and enters airways.		
Chronic effects	Repeated exposure of laboratory animals to high concentrations of gasoline vapors has caused kidney damage and cancer in rats and cancer in mice. Gasoline was evaluated for genetic activity in assays using microbial cells, cultured mammalian cells and rat bone marrow cells. The results were all negative so gasoline was considered nonmutagenic under these conditions. Overexposure to this product or its components has been suggested as a cause of liver abnormalities in laboratory animals and humans. Lifetime studies by the American Petroleum Institute have shown that kidney damage and kidney cancer can occur in male rats after prolonged inhalation exposures at elevated concentrations of total gasoline. Kidneys of mice and female rats were unaffected. The U.S. EPA Risk Assessment Forum has concluded that the male rat kidney tumor results are not relevant for humans. Total gasoline exposure also produced liver tumors in female mice only. The implication of these data for humans has not been determined.		
Further information	Symptoms may be delay		
12. Ecological information			
Ecotoxicity	Harmful to aquatic life w	/ith long lasting effects.	

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Components		Species	Test Results
Ethanol (CAS 64-17-5)			
Aquatic			
Algae	EC50	Freshwater algae	275 mg/l, 72 Hours
		Marine water algae	1970 mg/l
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours
		Freshwater fish	11200 mg/l, 96 Hours
Invertebrate	EC50	Freshwater invertebrate	5012 mg/l, 48 Hours
		Marine water invertebrate	857 mg/l, 48 Hours
Persistence and degradability	Not available.		
Bioaccumulative potential	Not available.		
Partition coefficient n-octa Ethanol (CAS 64-17-5)	nol / water (log l	Kow) -0.31	
Mobility in soil	Not available.		
Other adverse effects	Not available.		
13. Disposal consideration	ons		
Disposal instructions	disposed of as waste collection incinerator. Do	cordance with all applicable regulations. The s hazardous waste. Dispose of this materia on point. Incinerate the material under cont o not allow this material to drain into sewer vays or ditches with chemical or used conta	I and its container to hazardous or special rolled conditions in an approved s/water supplies. Do not contaminate
Hazardous waste code	D001: Waste	Flammable material with a flash point <140) °F
Waste from residues / unused products	Dispose of in a	accordance with local regulations.	
Contaminated packaging	Offer rinsed pa	ackaging material to local recycling facilitie	s.
14. Transport information	ı		
DOT			

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DOT	
UN number	UN1987
UN proper shipping name	Alcohols, n.o.s.
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	ll
Special precautions for user	· Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP1, TP8, TP28
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242
ΙΑΤΑ	
UN number	UN1987
UN proper shipping name	Alcohols, n.o.s.
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Environmental hazards	No
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
IMDG	
UN number	UN1987
UN proper shipping name	ALCOHOLS, N.O.S.
Transport hazard class(es)	
Class	3
Subsidiary risk	-

Denatured Fuel Ethanol

913830 Version #: 01 Revison date: 28-May-2014 Print date: 28-May-2014 Prepared by 3E Company

Label(s)	3
Packing group	1
Environmental hazards	
Marine pollutant	No
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to	This product is a liquid and when transported in bulk is covered under MARPOL 73/78 Annex II.
Annex II of MARPOL 73/78 and	This product is listed in the IBC Code.
the IBC Code	Ship type: -
	Pollution category: Z
EmS Special precautions for user Transport in bulk according to Annex II of MARPOL 73/78 and	Read safety instructions, SDS and emergency procedures before handling. This product is a liquid and when transported in bulk is covered under MARPOL 73/78 Annex II. This product is listed in the IBC Code.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Benzene (CAS 71-43-2)

Cancer Central nervous system Blood Aspiration Skin Eye Respiratory tract irritation Flammability

CERCLA Hazardous Substance List (40 CFR 302.4)

Benzene (CAS 71-43-2)	LISTED
Ethanol (CAS 64-17-5)	LISTED
Gasoline (motor Fuel) (CAS 86290-81-5)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous Yes

chemical

SARA 313 (TRI reporting) Not regulated.

not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Benzene (CAS 71-43-2)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act Not regulated.

(SDWA) US state regulations

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Benzene (CAS 71-43-2) Ethanol (CAS 64-17-5)

US. New Jersey Worker and Community Right-to-Know Act

Benzene (CAS 71-43-2) Ethanol (CAS 64-17-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Benzene (CAS 71-43-2) Ethanol (CAS 64-17-5) Gasoline (motor Fuel) (CAS 86290-81-5) Gasoline, natural (CAS 68425-31-0)

US. Rhode Island RTK

Benzene (CAS 71-43-2)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Benzene (CAS 71-43-2)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	28-May-2014
Revision date	-
Version #	01
Further information	HMIS® is a registered trade and service mark of the NPCA.
NFPA Ratings	



ACGIH EPA: AQUIRE database NLM: Hazardous Substances Data Base US. IARC Monographs on Occupational Exposures to Chemical Agents HSDB® - Hazardous Substances Data Bank IARC Monographs. Overall Evaluation of Carcinogenicity National Toxicology Program (NTP) Report on Carcinogens ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices This material Safety Data Sheet (SDS) was prepared in accordance with 29 CFR 1910.1200 by Valero Marketing & Supply Co., ("VALERO"). VALERO does not assume any liability arising out of product use by others. The information, recommendations, and suggestions presented in this SDS are based upon test results and data believed to be reliable. The end user of the product has the responsibility for evaluating the adequacy of the data under the conditions of use, determining the safety, toxicity and suitability of the product under these conditions, and obtaining additional or clarifying information where uncertainty exists. No guarantee expressed or implied is made as to the effects of such use , the results to be obtained, or the safety and toxicity of the product in any specific application. Furthermore, the information herein is not represented as absolutely complete, since it is not practicable to provide all the scientific and study information in the format of this document, plus additional information may be necessary under exceptional conditions of use, or because of applicable laws or government regulations.