

Safety Data Sheet (SDS)

Revision date 2/15/2022

Section 1: Chemical Product and Company Identification

Product Name: Gulf E98

Supplier: #1 Fuel Irish Ted-Mena Limited

Unit 12C Beulah Bldg, Finisklin Road, Slingo F91R2V5, Ireland

Identified uses: Fuel

Emergency Telephone Number

No additional information available

Section 2: Hazards Identification:

GHS Classification

Flammable Liquids, Category 2 H225 Eye Irritation, Category 2A H319 Skin Irritation, Category 2 H315 STOT SE, Category 3 H336 Aspiration Hazard, Category 1 H304, H400 Aquatic Hazard, Category 1, H410 Aquatic Hazard, Category 1
Full text of H-phrases: see section 16

Signal Word: DANGER



Hazard and Precautionary Statements

H225 Highly Flammable liquid and vapor.
H319 Causes serious eye irritation.
H315 Causes skin irritation
H336 May cause drowsiness or dizziness.
H304 May be fatal if swallowed and enters airways
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects
P210 Keep away from heat, sparks, open flames and hot surfaces - no smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting equipment
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 IF SWALLOWED: immediately call a POISON CENTER or doctor/physician.
P303/361/353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305/351/338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P312 Call a POISON Center or doctor/physician if you feel unwell.

- P331 Do NOT induce vomiting.
- P332 +P313 If skin irritation occurs: Get medical advice/attention.
- P337+313: If eye irritation persists get medical advice/attention.
- P362 Take off contaminated clothing and wash before reuse.
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P243 Take precautionary measures against static discharge.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P370 + 378 In case of fire: Use appropriate extinguishing media (See Section 5).
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
- P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations

Other Hazards

Other Hazards Not Contributing to the Classification

Flammable vapors can accumulate in head space of closed systems.

Unknown Acute Toxicity (GHS-US) Not available

Carcinogenicity:

- IARC : No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP : No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP
- ACGIH : No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NFPA Rating

Hazard Ratings:

If no data is listed the information is not available

Health 1 Flammability 3 Reactivity 0

Section 3: Composition/ Information on ingredients

Note: Items listed with a CASRN number have no CAS# available

Mixture

Name	Product identifier	% (w/w)	GHS-US classification
Ethyl alcohol	(CAS No) 64-17-5 (EC no) 200-578-6	98%	Flam. Liq. 2, H225 Eye Irrit. 2A, H319
2,2,4-Trimethylpentane	(CAS No) 540-84-1	2%	Flam. Liq. 2, H225 Skin Irrit 2, H315 STOT SE 3, H336 Aspiration Haz 1, H304, H400 & H 410 Aquatic Haz 1

Section 4: First Aid Measures

Description of First Aid Measures

Ethanol

- General:** Never give anything by mouth to an unconscious person. If exposed or concerned: Get medical advice/attention.
- Inhalation:** When symptoms occur: go into open air and ventilate suspected area.
- Skin Contact:** Remove contaminated clothing. Rinse immediately with large amounts of water. Call a POISON CENTER or doctor/physician if you feel unwell. Wash contaminated clothing before reuse.
- Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.
- Ingestion:** Get medical advice and attention if you feel unwell. Rinse mouth. Do NOT induce vomiting.

Most Important Symptoms and Effects Both Acute and Delayed

- General:** Causes serious eye irritation.
- Inhalation:** Prolonged exposure to liquid may cause a mild irritation.
- Skin Contact:** Repeated or prolonged skin contact may cause dermatitis and defatting.
- Eye Contact:** Causes serious eye irritation. Symptoms may include: Redness, pain, swelling, itching, burning, tearing, and blurred vision.

Ingestion: Ingestion of this product is extremely harmful to human health. Nausea and vomiting, higher exposure causes unconsciousness.

Chronic Symptoms: None expected under normal conditions of use.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

2,2,4 Trimethylpentane

General: Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.

Material may produce a serious, potential fatal pneumonia if swallowed or vomited.

Inhalation: Consult a physician after significant exposure. If unconscious place in recovery position and seek medical advice.

Skin Contact: If skin irritation persists, call a physician. If on the skin, rinse well with water. If on clothes, remove clothes.

Eye Contact: Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

Ingestion: Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

Section 5: Fire-Fighting Measures

Extinguishing Media

Suitable Extinguishing Media: Ethanol - Alcohol-resistant foam, carbon dioxide, dry chemical, water spray, fog.

2,2,4 Trimethylpentane - High volume water jet

Unsuitable Extinguishing Media: Ethanol - Do not use a heavy water stream. A heavy water stream may spread burning liquid. Water may be ineffective because it may not cool material below its flash point.

Special Hazards Arising From the Substance or Mixture

Ethanol -

Fire Hazard: Highly flammable liquid and vapor.

Explosion Hazard: May form flammable/explosive vapor-air mixture. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Reactivity: Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion.

2,2,4 Trimethylpentane

Specific hazards during fire-fighting: Do not allow run-off from fire fighting to enter drains or water courses.

Special Protective equipment for fire-fighters: Wear self-contained breathing apparatus for fire-fighting if necessary

Further information: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

Fire and explosion protection: Do not spray on an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. Prevent fire-fighting water from entering environment.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon Oxides (CO, CO₂)

Reference to Other Sections

Refer to section 9 for flammability properties.

Section 6: Accidental Release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Use special care to avoid static electric charges. Keep away from heat, sparks, open flames, hot surfaces.

– No smoking. Avoid all eyes and skin contact and do not breathe vapor and mist.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE). Ensure adequate ventilation. Remove all sources

of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection. Use appropriate personal protection equipment (PPE).

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

Environmental Precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

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.

Methods for Cleaning Up: Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material. Use non combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations. Use only non-sparking tools.

Reference to Other Sections

See Heading 8. Exposure controls and personal protection.

Section 7: Handling and Storage

Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas when leaving work.

Advice on protection against fire and explosion: Do not spray on an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment.

Keep away from open flames, hot surfaces and sources of ignition.

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 electrical, lighting, ventilating equipment.

Storage Conditions: Store in a dry, cool, and well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container closed when not in use. Keep in fireproof place.

Incompatible Materials: Strong oxidizing agents, acids, alkali metals, ammonia, hydrazine, peroxides, sodium, acid anhydrides, calcium hypochlorite, chromyl chloride, nitrosyl perchlorate, bromine pentafluoride, perchloric acid, silver nitrate, mercuric nitrate, potassium-tert-butoxide, magnesium perchlorate, acid chlorides, platinum, uranium hexafluoride, silver oxide, iodine heptafluoride, acetyl bromide, disulfuryl difluoride, tetra chlorosilane + water, acetyl chloride, permanganic acid, ruthenium (VIII) oxide, uranyl perchlorate, potassium dioxide.

Specific End Use(s)

Solvent.

Section 8: Exposure Controls / Personal Protection

Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Ethyl Alcohol (64-17-5)		
Mexico	DEL TWA (mg/m ³)	1900 mg/m ³
Mexico	DEL TWA (ppm)	1000 ppm
USA ACGIH	ACGIH STEL (ppm)	1000 ppm

USA ACGIH	ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1900 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1900 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm
USA IDLH	US IDLH (ppm)	3300 ppm (10% LEL)
Alberta	OEL TWA (mg/m ³)	1880 mg/m ³
Alberta	OEL TWA (ppm)	1000 ppm
British Columbia	OEL STEL (ppm)	1000 ppm
Manitoba	OEL STEL (ppm)	1000 ppm
New Brunswick	OEL TWA (mg/m ³)	1880 mg/m ³
New Brunswick	OEL TWA (ppm)	1000 ppm
Newfoundland &	OEL STEL (ppm)	1000 ppm
Nova Scotia	OEL STEL (ppm)	1000 ppm
Nunavut	OEL STEL (mg/m ³)	2355 mg/m ³
Nunavut	OEL STEL (ppm)	1250 ppm
Nunavut	OEL TWA (mg/m ³)	1884 mg/m ³
Nunavut	OEL TWA (ppm)	1000 ppm
Northwest Territories	OEL STEL (mg/m ³)	2355 mg/m ³
Northwest Territories	OEL STEL (ppm)	1250 ppm
Northwest Territories	OEL TWA (mg/m ³)	1884 mg/m ³
Northwest Territories	OEL TWA (ppm)	1000 ppm
Ontario	OEL STEL (ppm)	1000 ppm
Prince Edward Island	OEL STEL (ppm)	1000 ppm
Québec	VEMP (mg/m ³)	1880 mg/m ³
Québec	VEMP (ppm)	1000 ppm
Saskatchewan	OEL STEL (ppm)	1250 ppm
Saskatchewan	OEL TWA (ppm)	1000 ppm
Yukon	OEL STEL (mg/m ³)	1900 mg/m ³
Yukon	OEL STEL (ppm)	1000 ppm
Yukon	OEL TWA (mg/m ³)	1900 mg/m ³
Yukon	OEL TWA (ppm)	1000 ppm

Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide sufficient ventilation to keep vapors below permissible exposure limit. Gas detectors should be used when flammable gases/vapors may be released. Proper grounding procedures to avoid static electricity should be followed. Ensure all national/local regulations are observed.

Personal Protective Equipment: Protective clothing. Gloves. Protective goggles. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Not available

Hand Protection: Wear chemically resistant protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye Protection: Chemical goggles or tightly fitting safety glasses. Eye wash bottle with pure water.

Skin and Body Protection: Use chemically protective clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear as appropriate: Flame-resistant clothing. Footwear protecting against chemicals.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Air-Purifying Respirator for Organic Vapors. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

Other Information: When using, do not eat, drink, or smoke.

Chemical-resistant gloves should be worn whenever this material is handled. The glove material has to be impermeable and resistant to the product. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water. All glove recommendations presume that the risk of exposure is through splash and not intentional immersion of the hands into the product. Since glove permeation data does not exist for this material, no recommendation for the glove material can be given for the product. Permeation data must be obtained from the glove manufacturer to determine if the glove is suitable for the task.

Section 9: Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Ethanol

Liquid	: Liquid
Colorless, clear, volatile liquid	: Colorless, clear, volatile liquid
Odor	: alcohol
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: -114°C (-173°F)
Boiling Point	: 78 °C (172.4 °F)
Flash Point	: 12.8 °C (55 °F) CC
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: 3.3 % for Ethanol
Upper Flammable Limit	: 19 % for Ethanol
Vapor Pressure	: 44.6 mm Hg @ 20°C (68°F)
Relative Vapor Density at 20 °C	: 1.59 for Ethanol
Relative Density	: 0.8140-0.8157
Specific Gravity	: Not available
Solubility	: Water: Completely
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact.

2,2,4 Trimethylpentane

Form	: liquid
Liquid	: Liquid
Color	: Colorless, clear, volatile liquid
Odor	: mild
Flash point	: -12.22°C (10.00°F) Estimated
Lower Explosion limit	: 1% (V)
Upper explosion limit	: 7% (V)
Oxidizing properties	: no
Autoignition temperature	: 411°C (772°F)
Molecular formula	: 114.26 g/mol
pH	: Not applicable
Pour Point	: Not applicable
Boiling point/Boiling range	: 99°C (210°F)
Vapor pressure	: 1.70 PSA at 37.8°C (100.0°F)

Relative density	: 0.69 at 15.6°C (60.1 °F)
Water Solubility	: negligible
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity, Kinematic	: 0.503 cSt at 20°C (68°F)
Relative Vapor Density	: 1 (air=1.0)
Evaporation rate	: 1
Percent volatile	: >99%

Section 10: Stability and Reactivity:

Reactivity: Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion.

Chemical Stability: Stable at standard temperature and pressure. Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur. Heat, sparks, fire and oxidizing agents
Direct sunlight. Extremely high or low temperatures. Open flame. Ignition sources.
May react with oxygen and oxidizing agents such as chlorates, nitrates and peroxides, etc.

Conditions to Avoid:

Strong oxidizing agents, acids, alkali metals, ammonia, hydrazine, peroxides, sodium, acid anhydrides, calcium hypochlorite, chromyl chloride, nitrosyl perchlorate, bromine pentafluoride, perchloric acid, silver nitrate, mercuric nitrate, potassium-tert-butoxide, magnesium perchlorate, acid chlorides, platinum, uranium hexafluoride, silver oxide, iodine heptafluoride, acetyl bromide, disulfuryl difluoride, tetrachlorosilane + water, acetyl chloride, permanganic acid, ruthenium (VIII) oxide, uranyl perchlorate, potassium dioxide.

Incompatible Materials:

Hazardous decomposition products Carbon oxides (CO, CO2), hydrocarbons

Section 11: Toxicological Information

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data:

Ethyl Alcohol, 200 Proof (64-17-5)	
LC50 Inhalation Rat	124.7 mg/l/4h
Ethyl Alcohol, 200 Proof (64-17-5)	
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitization: Not classified **Germ Cell Mutagenicity:** Not classified **Teratogenicity:** Not classified

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Prolonged exposure to liquid may cause a mild irritation.

Symptoms/Injuries After Skin Contact: Repeated or prolonged skin contact may cause dermatitis and defatting.

Symptoms/Injuries After Eye Contact: Causes serious eye irritation. Symptoms may include: Redness, pain, swelling, itching, burning, tearing, and blurred vision.

Symptoms/Injuries After Ingestion: This product is adulterated to prevent ingestion. Ingestion of this product is extremely harmful to human health. nausea and vomiting, higher exposure causes unconsciousness.

Chronic Symptoms: None expected under normal conditions of use.

Information on Toxicological Effects - Ingredient(s) LD50 and LC50 Data:

Ethyl alcohol (64-17-5)

LD50 Oral Rat	10470 mg/kg
LD50 Dermal Rat	20 ml/kg
LC50 Inhalation Rat	124.7 mg/l/4h
Ethyl alcohol (64-17-5)	
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
2,2,4 Trimethylpentane	
Acute oral toxicity	
LD50:	>5,000 mg/kg
Species:	Rat
Sex:	male and female
Method:	OECD Test Guideline 401
Symptoms:	Salivation
Acute Inhalation Toxicity	
LC50:	>33.52 milligram per liter Exposure time: 4 H
Species:	Rat
Sex:	male and female
Test atmosphere:	vapor
Method:	OECD Test Guideline 403
Acute dermal toxicity	
LD50:	>2000 milligram per kilogram
Species:	rabbit
Sex:	male and female
Method:	OECD Test Guideline 402
Skin irritation:	Irritating to skin may cause skin irritation in susceptible persons.
Eye irritation	no eye irritation Vapors may cause irritation to the eyes, respiratory system and the skin
Sensitization	Does not cause skin sensitization
Repeated dose toxicity	
Species:	RAT
Sex:	male and female
application route:	Inhalation
Dose	0,68,2220, 6646 ppm
Exposure time	13 weeks
Number of exposures:	6 hr./day 5 d/wk.
NOEL:	8.117 gm/l 2220 ppm
Method:	OECD Guideline 413
	Information given is based on data obtained from similar substances.
Reproductive toxicity	
Species:	RAT
Sex:	male and female
application route:	Inhalation
Dose	0, 900, 3000, 9000 ppm

Number of exposures:	6 hr./day 5 d/wk.
Method:	OECD Test guideline 416
NOAEL Parent:	3000 ppm
NOAEL F1:	3000 ppm
NOAEL F2:	3000 ppm
	Information given is based on data obtained from similar substances.
Developmental Toxicity	
Species:	RAT
application route:	Inhalation
Dose	0, 400, 1200 ppm
Number of exposures:	6h/d
Test Period:	GD6-15
NOAEL Teratogenicity:	1200 ppm
NOAEL Maternal:	1200 ppm
	Information given is based on data obtained from similar substances.
Species:	RAT
application route:	Inhalation
Dose	0, 900, 3000, 9000 ppm
Number of exposures:	6h/d
Test Period:	GD6-15
Method:	OECD Test guideline 414
NOAEL Teratogenicity:	9000 ppm
NOAEL Maternal:	3000 ppm
	Information given is based on data obtained from similar substances.
Aspiration toxicity	May be fatal if swallowed and enters airways.
	substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard
CMR Effects	
Mutagenicity:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Teratogenicity:	Animal testing did not show any effects on fetal development.
Reproductive toxicity:	Animal testing did not show any effects on fertility.
CMR Effects	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Concentrations substantially above TLV value may cause narcotic effects. Solvents may degrease the skin.

Section 12: Ecological Information

Ethanol

Toxicity

Ecology - General: Readily biodegrades. Evaporates to moderate extent. Does not bioaccumulate.

Ethyl alcohol (64-17-5)	
LC50 Fish 1	12.0 - 16.0 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	9268 - 14221 mg/l (Exposure time: 48 h - Species: Daphnia magna)

LC 50 Fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
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Persistence and Degradability

Ethyl Alcohol (64-17-5)	
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Persistence and Degradability	Not established. May cause long-term adverse effects in the environment.
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Bioaccumulate Potential

Ethyl Alcohol (64-17-5)	
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Log Pow	-0.32
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Bioaccumulate Potential	Not established.
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Mobility in Soil

Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

2,2,4 Trimethylpentane

Toxicity to fish	
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LC50:	0.11 mg/l
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Exposure Time:	96 h
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Species:	Oncorhynchus mykiss (rainbow trout)
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semi-static test Method:	OECD Test Guideline 203
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	Information given is based on data obtained from similar substances.
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Toxicity to daphnia and other aquatic invertebrates	
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EC50:	0.4 mg/l
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Exposure Time:	48 h
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Species:	Daphnia magna (water flea)
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	Information given is based on data obtained from similar substances.
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Toxicity to algae	
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EL50	2.943 mg/l
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Exposure Time:	72h
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Method:	QSAR Modeled data
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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	
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NOEC:	0.17 mg/l
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Exposure Time:	21 d
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Species:	Daphnia magna (water flea)
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Biodegradability	
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Result:	Not readily biodegradable
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Method:	OECD Test Guideline 301
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	Expected to be inherently biodegradable.
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	Information given is based on data obtained from similar substances.
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Ecotoxicology Assessment	
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Acute aquatic toxicity	Very toxic to aquatic life.
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Chronic aquatic toxicity	Very toxic to aquatic life with long lasting effects.
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Results of PBT assessment	Non-classified PBT substance, NON-classified vPvB substance
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Additional ecological information	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Very toxic to aquatic life with long lasting effects.
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Section 13: Disposal Considerations

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other state and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazard waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product: The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

Contaminated packaging: Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Additional Information: Handle empty containers with care because residual vapors are flammable

Section 14: Transportation Information

In Accordance with DOT

Proper Shipping Name : ETHYL ALCOHOL SOLUTIONS



Hazard Class : 3

Identification Number : UN1170

Label Codes : 3

Packing Group : II

ERG Number : 127

In Accordance with IMDG

Note:

Exemptions apply for small pack sizes.

Proper Shipping Name : ETHYL ALCOHOL SOLUTIONS

Hazard Class : 3

Identification Number : UN1170

Packing Group : II

Label Codes : 3



EmS-No. (Fire) : F-E

EmS-No. (Spillage) : S-D

In Accordance with IATA

Proper Shipping Name : ETHYL ALCOHOL SOLUTIONS

Packing Group : II

Identification Number : UN1170

Hazard Class : 3



Label Codes : 3

ERG Code (IATA) : 3L

In Accordance with TDG

Proper Shipping Name : ETHYL ALCOHOL SOLUTIONS

Packing Group : II

Hazard Class : 3



Identification Number : UN1170

Label Codes : 3

2,2,4 Trimethylpentane

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition)

Consult the appropriate domestic or international mode-specified and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the Bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

UN1262, octanes, 3, II, Marine Pollutant, RQ

IMO/IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN1262 Octanes, 3, II, (-12.22°C), Marine Pollutant

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN1262 Octanes, 3, II, (D/E), Environmentally Hazardous

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))

UN1262 Octanes, 3, II, (D/E), Environmentally Hazardous

AND (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)

UN1262 Octanes, 3, II, (D/E), Environmentally Hazardous

Transport in bulk according to annex II of MARPOL 73/78 and the IBC Code

Section 15: Regulatory Information

Ethyl Alcohol, 200 Proof (64-17-5)

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

Fire hazard

Immediate (acute) health hazard

SARA Section 311/312 Hazard Classes

Ethyl alcohol (64-17-5)

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

inventory

Water (7732-18-5)

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

inventory

US State Regulations:

U.S. - California - Proposition 65 - Carcinogens List

WARNING: This product contains chemicals known to the State of California to cause cancer.

U.S. - California - Proposition 65 - Developmental Toxicity State or local regulations

U.S. - Massachusetts - Right To Know List

WARNING: This product contains chemicals known to the State of California to cause birth defects.

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

WARNING: This product contains chemicals known to the State of California to cause cancer.

Ethyl alcohol (64-17-5)

U.S. - California - Proposition 65 - Carcinogens List

WARNING: This product contains chemicals known to the State of California to cause birth defects.

U.S. - California - Proposition 65 - Developmental Toxicity

Ethyl alcohol (64-17-5)

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

Canadian Regulations**Ethyl Alcohol, 200 Proof (64-17-5)**

Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian

YesIDL Concentration 0.1 %

WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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**Ethyl alcohol (64-17-5)**

Listed on the Canadian DSL (D

Listed on the Canadian domestic Substances

IDL Concentration 0.1 %

WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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Water (7732-18-5)

Listed on the Canadian DSL domestic Substances List)

WHMIS Classification Uncontrolled product according to WHMIS classification criteria

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

2,2,4 Trimethylpentane**National legislation**

SARA 311/312 Hazards:	Fire Hazard Acute health Hazard
Cercla Reportable Quantity:	1000 lbs.
SARA 302 Reportable quantity:	This material does not contain any components with a SARA 302 RQ.
SARA 302 Threshold Planning Quantity	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 304 Reportable Quantity	This material does not contain any components with a section 304 EHS RQ
Sara 313 Ingredients:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

Clean air act

Ozone-depletion potential:	This product neither contains, nor was manufactured with a class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt., A, App.A + B).
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	The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61): 2,2,4 Trimethylpentane (540-84-1)
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	This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR68.130, Subpart F)
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	This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).
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US STATE REGULATIONS

	Pennsylvania Right to know
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New Jersey Right to Know
This product does not contain any chemicals known to the state of California to cause cancer, birth, or any California Pro. 65 Ingredients: other reproductive defects.
Section 16: Other Information

This document has been prepared in accordance with the SDS requirements of the : OSHA

Other Information

GHS Full Text Phrases:

Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapor
H319	Causes serious eye irritation
Skin Irrit 2	Moderate skin irritant
STOT SE 3	Specific Target Organ Toxicity - Single Exposure Category 3
Aspiration Haz 1	Aspiration Hazard category 1
H315	Causes skin Irritation
H336	May cause drowsiness or dizziness and enters airways
Aquatic Hazard, cat 1	Very toxic to aquatic life
Aquatic Hazard, cat 1	Very toxic to aquatic life with long lasting effects

The information in this SDS pertains only to the product as shipped

The information provided in this safety data sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing storage, transportation, disposal and release and is not to be considered a warranty or quality specification. the information relates only to the specific material designated and my not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

ACGIH	American Conference of Government Industrial Hygienist	LD50	Lethal Dose 50%
AICAS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety and health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act

>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Super Fund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or variable composition, Complex Reaction products, and Biological Materials
<=	Less Than or Equal to	WHMIS	Workplace Hazardous materials Information System
LC50	Lethal Concentration 50%		

End of Safety Data Sheet