

SAFETY DATA SHEET

Denatured Ethanol

1. IDENTIFICATION

Product Identifier	Denatured Ethanol
Synonyms:	Fuel Grade Ethanol, Denatured Alcohol, Alcohol with Natural Gasoline, Denatured Ethyl Alcohol
Intended use of the product:	Fuel Additive
Restrictions on use:	Not Intended for Human Consumption
Contact:	Gulf Oil Limited Partnership (PikeFuels) 80 William Street Suite 400 Wellesley Hills, MA 02481 Productinfo@pikefuels.com (Non-emergency): 339-933-7200
Contact Information:	EMERGENCY TELEPHONE NUMBER (24 hrs): CHEMTREC (800) 424-9300

2. HAZARD IDENTIFICATION

Applicable Hazard Classifications and Hazard Statements (GHS-US):

Flammable Liquid	Category 2	H225– Highly flammable liquid and vapor
Aspiration Hazard	Category 1	H304- May be fatal if swallowed and enters airways
Germ Cell Mutagenicity	Category 1B	H340– May cause genetic defects
Carcinogenicity	Category 1A	H350– May cause cancer
Acute Aquatic Hazard	Category 2	H401- Toxic to aquatic life
Long-term Aquatic Hazard	Category 2	H411- Toxic to aquatic life with long lasting effects
Hazard Not Otherwise Classified		Static accumulating flammable liquid

Labeling Elements



Flammable Irritant Health Hazard Environmental
Toxicity

Signal Word (GHS-US): **Danger**

Precautionary Statements (GHS-US):

P201 - Obtain special instructions before use.
P202 – Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 - Keep container tightly closed.
P240 – Ground/bond container and receiving equipment.
P241 – Use explosion-proof electrical/ventilating/lighting equipment pursuant to applicable electrical code
P242 – Use only non-sparking tools
P243 – Take precautionary measures against static discharge.
P273 – Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P281 – Use personal protective equipment as required.
P301+P310 – IF SWALLOWED, immediately call a POISON CENTER/Doctor/Hospital
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P308+P313 – IF exposed or concerned, Get medical advice/attention.
P331 – DO NOT induce vomiting.
P370+P378 – In case of fire use firefighting foam or other appropriate media for Class B fires to extinguish.
P391 – Collect Spillage
P403+P235 - Store in a well-ventilated place. Keep cool.

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P405 - Store locked up.
P501 – Dispose of contents/container in accordance with
local/regional/national/international regulation.

Other information:

NFPA 704
Health: 2 – Can cause temporary incapacitation or residual injury
Fire: 3 – Can be ignited under almost all ambient temperatures
Reactivity: 0 – Stable



Under normal conditions, this product is not a gas under pressure, explosive, self-heating, pyrophoric, an oxidizer, an organic peroxide, self-reactive, a combustible dust or corrosive to metal. It does not emit flammable gas in contact with water.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Composition Information

Concentrations are percent by volume.

Name	CAS Number	% Concentration	Classification
Ethyl Alcohol	64-17-5	95-99	Flam Liq 2 H225
Gasoline	8006-61-9	1-5	Flam Liq 2, H225; Asp 1, H304; Muta 1B, H340; Carc 1A, H350; Aquatic Haz 2, H401 & H411

Gasoline is a complex blend of petroleum-derived normal and branched-chain alkane, cycloalkane, alkene and aromatic hydrocarbons. Its exact composition depends on the source of the crude oil from which it was produced and the refining methods used. The constituents of gasoline may include Benzene, Cumene, Cyclohexane, Ethylbenzene, N-Hexane, Naphthalene, Toluene, Xylenes and 1,2,4-Trimethylbenzene. Motor gasoline is considered a mixture by EPA under the Toxic Substance Control Act (TSCA). See Section 15 for list of SARA Section 313 toxic chemicals.

4. FIRST AID MEASURES

Route	Measures
Inhalation	For those providing assistance, avoid exposure to yourself or others. Remove person to fresh air. If person is not breathing, ensure an open airway and provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so and seek medical attention immediately. If respiratory irritation, dizziness, nausea or unconsciousness occurs seek medical attention immediately.
Ingestion	Aspiration Hazard: DO NOT INDUCE VOMITING. Do not give liquids. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspirating liquids into lungs, causing serious damage and chemical pneumonitis. If patient is lying down, turn body and head to side to prevent aspiration and monitor for breathing difficulty. If the victim is conscious, small amounts of material which enter the mouth should be rinsed out until the taste is dissipated. Seek medical attention immediately.
Eye Contact	In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 minutes. Hold eyelids open to ensure adequate flushing. Check for and gently remove contact lenses while flushing. Seek medical attention immediately.
Skin Contact	Remove contaminated clothing and shoes. Wash contaminated areas thoroughly with soap and water. Obtain medical attention if irritation or redness develops. Any injection injury from high pressure equipment should be evaluated immediately by a physician as potentially serious. Launder contaminated clothing before re-use.
Absorption	May be absorbed through the skin in harmful amounts. As with skin contact, remove contaminated clothing and flush with copious amounts of water. Flush affected area for at least 15 minutes to minimize potential for further absorption. Seek medical attention if significant portions of skin have been exposed.

Most Important Symptoms

Irritating to the skin and mucous membranes. Symptoms may include redness, itching and inflammation. May cause nausea, vomiting, diarrhea and signs of nervous system depression: headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Aspiration hazard. May cause coughing, chest pains, shortness of breath, pulmonary edema and/or chemical

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pneumonitis. Repeated or prolonged skin contact may cause drying, reddening, itching and cracking.

Long-term exposure may cause effects to specific organs, such as to the liver, kidneys, blood, nervous system and skin. Contains benzene, which can cause blood disease, including anemia and leukemia. Urine samples may be obtained to determine biological effects of benzene exposure and should be collected in accordance with the medical surveillance criteria in 29 CFR 1910.1028.

Notes to Medical Professionals

INHALATION: The priority in treatment should be the establishment of adequate ventilation and the administration of 100% oxygen. Monitor for respiratory distress and anticipate seizures. If cough or difficulty in breathing develops, evaluate for upper respiratory tract inflammation, bronchitis and pneumonitis. This material (or a component) sensitizes the myocardium to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. Administration of sympathomimetic drugs should be avoided. Consider orotracheal or nasotracheal intubation of airway if patient is unconscious or is in severe respiratory distress.

SKIN or EYES: Accidents involving high-pressure equipment may inject a stream of material through the skin and initially produce an injury that may not appear serious. Only a small puncture wound may appear on the skin surface but, without proper treatment and depending on the nature, original pressure, volume and location of the injected material, can compromise blood supply to an affected body part. Prompt surgical debridement of the wound may be necessary to prevent irreversible loss of function and/or the affected body part. Immediately wash or flush contaminated eyes with gently flowing water. If possible, irrigate each eye continuously with 0.9% saline (NS).

INGESTION: This material represents a significant aspiration and chemical pneumonitis hazard. If ingested, do NOT induce vomiting, as this may cause chemical pneumonia (fluid in the lungs). Consider activated charcoal and/or gastric lavage. If patient is obtunded, protect the airway by cuffed endotracheal intubation or by placement of the body in the Trendelenburg position or left lateral decubitus position.

Medical Conditions Aggravated by Exposure

Irritation from skin exposure may aggravate existing open wounds, skin disorders or dermatitis (rash). Chronic respiratory disease, liver or kidney dysfunction or pre-existing central nervous system disorders may be aggravated by exposure.

5. FIRE-FIGHTING MEASURES

Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment. For additional fire related information, see NFPA 30 or the Emergency Response Guidebook 127.

Extinguishing Media

SMALL FIRES: Small fires in the incipient (beginning) stage may be extinguished using handheld portable fire extinguishers. Any extinguisher suitable for Class B fires, dry chemical, CO₂, alcohol-resistant foam or Halon.

LARGE FIRES: Alcohol-resistant foam. Water may be ineffective for fighting the fire, but may be used to cool fire exposed containers. Do not use straight water streams as this may spread the fire.

Firefighting foam suitable for polar solvents is recommended for fuel with greater than 10% oxygenate concentration - refer to NFPA 11 "Standard for Low-, Medium- and High-Expansion Foam -2016 (or current) Edition."

Specific Hazards / Products of Combustion

Vapors may be ignited rapidly when exposed to heat, spark, open flame or other sources of ignition. Flowing product may be ignited by self-generated static electricity. 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.

Combustion may produce smoke, carbon monoxide and other products of incomplete combustion.

Special Precautions and Protective Equipment for Firefighters

Isolate area around container involved in fire. Consider initial downwind evacuation for at least 1000 feet. If tank, rail car or tank truck is involved in a fire, consider evacuation for 1 mile in all directions.

Fight the fire from the maximum distance. Cool burning tanks, shells or containers exposed to fire and excessive heat with water until well after the fire is out. For massive fires, the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied firefighting foam. Withdraw immediately in case of rising sound from venting safety devices or discoloration the tank.

Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus (SCBA) with full face piece and full protective clothing.

See Section 9 for fire properties of this chemical including flash point, autoignition temperature and explosive limits

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6. ACCIDENTAL RELEASE MEASURES

ACTIVATE FACILITY SPCC, SPILL CONTINGENCY or EMERGENCY PLAN.

Personal Precautions

Only properly trained personnel should respond to spills. Depending on the size of the spill, downwind or down water receptors may need to be notified.

Evacuate nonessential personnel and remove or secure all ignition sources (flame, spark, hot work, hot metal, etc.). The proper use of alcohol-resistant foam spray may effectively disperse product vapors, preventing contact with ignition sources or areas/equipment that require protection.

Consider wind direction; stay upwind and uphill, if possible. Avoid inhaling vapors. Evaluate the direction of product travel, diking, sewers, etc. to identify the extent of the spill area. Do not touch or walk-through spilled material.

Highly flammable material, even small spills may pose a fire danger for emergency responders. Due to high vapor density, flammable / toxic vapors may be present in low lying areas, dikes, pits, drains or trenches. Ventilate the area. Use of non-sparking tools and intrinsically safe equipment is recommended. Potential for flammable atmosphere should be monitored using a combustible gas indicator positioned downwind of the spill area. See Sections 2 and 7 for further hazard warnings and handling instructions.

Use appropriate personal protective equipment to prevent eye/skin contact and absorption. Use NIOSH approved respiratory protection, if warranted, to prevent exposures above permissible limits (see Section 8). Contaminated clothing should not be worn near sources of ignition.

Environmental Precautions

The ethanol component of this product is totally miscible in water. The gasoline component will separate out from the mixture and float on water.

Control the source of the spill to prevent or minimize environmental impact if it can be done safely. Keep on impervious surface if possible. Foam and absorbents may be used to reduce/prevent airborne release. Product is toxic to aquatic life. Biodegradation of ethanol in surface water can result in complete depletion of dissolved oxygen. Isolate environmental receptors including drains, storm sewers and natural water bodies if safe to do so, to prevent the spill from reaching a waterbody. Water intakes on waterways that may be impacted by spills should be closed or protected. Environmentally sensitive areas on waterways that may be impacted by spills should be protected.

Spills to land may infiltrate subsurface soil and impact groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Follow federal, state and local requirements for reporting environmental release where necessary (see Section 15 for further information).

Containment and Clean-Up Methods

Identify the source of the spill and stop the leak, if safe to do so. Protect bodies of water by creating dams to divert the flow away from the waterbody using soil, granular absorbents, absorbent boom or pads or by closing valves on lines that drain to the waterbody. Prevent the spill from running off impervious surfaces if possible. Do not flush down sewer or drainage systems, unless the system is designed and permitted to handle such material. If water is used to prevent product from spreading, use sparingly.

Wind and water current speed and direction and wave action may influence the response actions for a spill to water. It may not be advisable to use boom to collect and confine the gasoline component of this product in the event of a spill to water to a limited area due to the potential accumulation of vapors within the flammable range of gasoline and the possible exposure of responders to the hazards of inhalation of the concentrated vapors. It may be best to allow the gasoline component to evaporate from the surface of the water. Local specialists should be consulted.

Granular absorbents, dry earth, sand or other non-combustible, inert oil absorbing materials may be used to take up spills to land. Carefully shovel, scoop or sweep up into a waste container with clean, non-sparking tools for reclamation or disposal. Response and clean-up crews must be properly trained and must utilize proper personal protective equipment (see Section 8). Licensed waste disposal contactors should be used to transport the waste material generated by cleanup activities to the disposal site.

7. HANDLING AND STORAGE

USE ONLY AS A MOTOR FUEL ADDITIVE

DO NOT SIPHON BY MOUTH

Handling Precautions

Handle as a flammable liquid. Keep away from heat, sparks and open flame. No smoking. Electrical equipment should be approved for classified area. Bond and ground containers during product transfer pursuant to NFPA 70 and API RP 2003 to reduce the possibility of static-initiated fire or explosion. Follow precautions to prevent static initiated fire.

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Use good personal hygiene practices. Use only with protective equipment specified in Section 8. Avoid repeated and/or prolonged skin exposure. Use only outdoors or in well ventilated areas. Wash hands before eating, drinking, smoking or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves. Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure.

Vapors are heavier than air and can accumulate in low lying areas (e.g., tanks, pits, vaults, dikes, drains, etc.) Follow specific procedures for confined space entry in areas where product may be present pursuant to OSHA requirements in 29 CFR 1910.146. Atmospheric testing using a combustible gas indicator may be necessary in confined areas where product may be present.

Storage

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Label all secondary containers that this material is transferred into with the chemical name and associated hazard(s). Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition. Separate from incompatible materials (see Section 10) by distance or secondary containment.

Store in a well-ventilated area. Protect containers from damage and vehicular traffic. Post "No Smoking" signs in product storage areas. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks in Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits

Name	ACGIH TLV	OSHA PELS:	OSHA - Vacated PELs	NIOSH IDLH
Ethyl Alcohol 64-17-5	1000 ppm STEL	TWA: 1000 ppm TWA: 1900 mg/m ³	1000 ppm TWA 1900 mg/m ³ TWA	3300 ppm
Gasoline 8006-61-9	-	-	300 ppm TWA 900 mg/m ³ TWA 500 ppm STEL 1500 mg/m ³ STEL	-

Engineering Controls

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces. Intrinsically safe equipment and non-sparking tools shall be used in circumstances where concentrations may exceed lower flammable limits. Grounding and bonding shall be used to prevent accumulation and discharge of static electricity.

Emergency shower and eyewash should be provided in proximity to handling areas in the event of exposure to decontaminate.

Exposure	Personal Protective Equipment
Eye / Face	Safety glasses with side shields should be worn as a minimum. Safety glasses or goggles and face shield are recommended where there is a possibility of splashing or spraying. Eyewash stations and shower facilities should be located near potential exposure locations.
Skin	Wear appropriate personal protective clothing to prevent skin contact. Gloves constructed of Viton, nitrile, neoprene or PVC are recommended when handling this material. Chemical protective clothing such as of E.I. DuPont TyChem®, Barricade® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

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Respiratory	<p>No respiratory protection is required under typical operating conditions with adequate ventilation. Respiratory protection is required when airborne exposures exceed or are expected to exceed permissible exposure limits. A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be required under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic and the manufacturer for additional guidance on respiratory protection selection and limitations.</p> <p>Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres or any other circumstance where an air-purifying respirator may not provide adequate protection. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor or if air-purifying filter capacity/rating may be exceeded.</p> <p>Specific requirements under the OSHA occupational exposure to Benzene may apply if concentrations exceed the action level or permissible limits. Consult 29 CFR 1910.1028 for further information.</p>
Personal Hygiene	<p>Always observe good personal hygiene measures such as washing after handling the material and before eating, drinking, smoking or using the lavatory. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.</p>
Thermal	<p>Product is stored at ambient temperature. No thermal protection is required except for emergency operations involving actual or potential for fire. Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.</p>

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Value	Comments
Appearance	A clear, water-like liquid	
Odor	Pungent wine-like	
Odor Threshold	Ethyl Alcohol: 84 ppm Gasoline: 0.25 ppm	
pH	Not applicable	
Melting / Freeze Point	Ethyl Alcohol: -173 °F (-114 °C) Gasoline: -150 °F (-101 °C)	proportional to the % of each component
Boiling Point	Ethyl Alcohol: 173 °F (78 °C) Gasoline: 102 to 410 °F (24 to 210 °C)	proportional to the % of each component
Flash Point	-5 °F (-20 °C)	
Evaporation Rate	Ethyl Alcohol: 2 Gasoline: >10	(n-butyl acetate = 1)
Flammability (solid, gas)	Not Applicable	
Flammability Limits	3 - 19%	Upper and Lower Limits in air
Vapor Pressure	44 mm Hg @ 68 °F (20 °C)	Air = 1
Vapor Density	Ethyl Alcohol: 1.59 Gasoline: >3	proportional to the % of each component
Specific Gravity	Ethyl Alcohol: 0.79 Gasoline: 0.73	(water =1)
Solubility	Ethyl Alcohol is 100% soluble in water and has greater solubility than other oxygenates. Gasoline-negligible (<0.1% @77 °F).	
Partition Coefficient	No data available	
Autoignition Temperature	Ethyl Alcohol: 685 °F (363 °C) Gasoline: >530 °F (277 °C) Highly variable	
Decomposition Temperature	Evaporation or ignition will likely occur before decomposition	

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Viscosity	Approx. 1.35 cp @ 20 °C	
Percent Volatiles	100%	

10. STABILITY AND REACTIVITY

Stability

Stable under recommended storage, transport and usage conditions. A fire may result if an ignition source is present.

Reactivity

Material is not self-reacting. Flammable concentrations may be present in air. May react with oxidizing materials.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization

Will not occur.

Incompatibility

Keep away from halogens, strong acids, alkalis and strong oxidizers such as nitric and sulfuric acids.

Conditions to Avoid

Avoid high temperatures, open flames, sparks, static electricity, welding, smoking and other ignition sources.

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke). Contact with nitric or sulfuric acids will form nitroresols that can decompose violently.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Name	Oral LD50	Dermal LD50	Inhalation LC50
Ethyl Alcohol 64-17-5	> 5000 mg/kg (Rat)	-	124.7 mg/L (Rat) 4 h
Gasoline 8006-61-9	>5000 mg/kg (rat)	> 5 mL/kg (rabbit)	>5000 mg/m ³ (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

ETHANOL: Repeated ingestion of ethanol can result in alcohol abuse, causing behavioral changes, memory loss, impaired judgement, decreased appetite, irregular heartbeats and decreased fertility. Prolonged and repeated ingestion of ethanol has also been associated with cancers of the mouth, pharynx, esophagus and liver. Ethanol ingestion by pregnant women can cause miscarriage, low birth weight, premature birth and fetal alcohol syndrome. In males, acute and chronic alcohol ingestion may affect gonadal hormone levels. It may also affect the liver, kidney, brain, blood and cardiovascular system.

MIDDLE DISTILLATES, PETROLEUM: Altered mental state, drowsiness, peripheral motor neuropathy, irreversible brain damage (so-called Petrol Sniffer's Encephalopathy), delirium, seizures, and sudden death have been reported from repeated overexposure to some hydrocarbon solvents, naphthas and gasoline.

- Corrosion/Irritation:** Causes skin irritation.
- Serious Eye Damage/Irritation:** Causes serious eye irritation
- Respiratory or Skin Sensitization:** Not classified
- Germ Cell Mutagenicity:** May cause genetic defects.

Carcinogenicity: OSHA: NO IARC: YES (2B) NTP: NO ACGIH: YES (A3)

The IARC has determined that there is sufficient evidence indicating that alcoholic beverages (ethanol) are carcinogenic in humans (Group 1). They have determined that there is inadequate evidence that gasoline is carcinogenic in humans and limited evidence that it is carcinogenic in animals. However, IARC has designated MATERIAL SAFETY DATA SHEET Denatured Fuel Grade Ethanol Page 5 of 6 Revision 04/03/2012 gasoline as possibly carcinogenic to humans (Group 2B) due to the fact that gasoline contains benzene.

This product contains benzene. Human health studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood-forming system (particularly bone marrow) and serious blood disorders such as aplastic anemia and leukemia. The NTP, ARC, OSHA and ACGIH list benzene as a human carcinogen.

Reproductive Toxicity: May damage/Suspected of damaging fertility or the unborn child. Teratogenicity: Not available

Specific Target Organ Toxicity (Repeated Exposure): Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination,

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unconsciousness, coma, respiratory failure and death.

Specific Target Organ Toxicity (Single Exposure): Single over-exposure likely to cause central nervous system effects (dizziness and drowsiness), excessive exposure could cause paralysis or cardiac arrhythmia.

Aspiration Hazard: This chemical is considered to be an aspiration hazard. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

Potential Health Effects: Vapor irritating to eyes, nose and throat. Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death may occur. Inhalation at high concentrations in confined spaces with less than 16% oxygen needed to sustain life, skin and /or eye contact (liquid).

Chronic effects: Human inhalation (chronic) >500 ppm (approx. 1.8 mg/L)/ day. Effects: May cause vomiting, diarrhea, insomnia, headache dizziness, anemia, muscle & neurological symptoms.

12. ECOLOGICAL INFORMATION

Ecotoxicity: This product should be considered toxic to aquatic organisms, with the potential to cause long lasting adverse effects in the aquatic environment.

Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Gasoline 8006-61-9	72-hr EC50 = 56 mg/l Algae	96-hr LC50 = 11 mg/l Rainbow trout (static)	-	48-hr LC50 = 7.6 mg/l Daphnia magna
Ethyl Alcohol 64-17-5	-	96-hr LC50 >1,000 mg/l Rainbow Trout (static) 96- hr LC50 >100 mg/l Fathead minnow (static)	-	48-hr LC50 >1,000 mg/l Daphnia magna
Toluene 108-88-3	72-hr EC50 = 12.5 mg/l Algae	96-hr LC50 ≤ 10 mg/l Rainbow trout	-	48-hr EC50 = 5.46-9.83 mg/l Daphnia magna 48-hr EC50 = 11.5 mg/l Daphnia magna (Static)
Xylene (mixed isomers) 1330-20-7	72-hr EC50 = 11 mg/l Algae	96-hr LC50 = 8 mg/l Rainbow trout	-	48-hr LC50 = 3.82 mg/l Daphnia magna
n-Hexane 110-54-3	-	96-hr LC50 = 2.5 mg/l Fathead minnow	-	-
Cumene 98-82-8	72-hr EC50 = 2.6 mg/l Algae	96-hr LC50 = 6.04-6.61 mg/l Fathead minnow (Flow-through) 96-hr LC50 = 2.7 mg/l Rainbow trout (semi-static)	-	48-hr EC50 = 7.9-14.1 mg/l Daphnia magna (static)
1,2,4Trimethylbenzene 95-63-6	-	96-hr LC50 = 7.19-8.28 mg/l Fathead minnow (flow-through)	-	48-hr EC50 = 6.14 mg/L Daphnia magna
Ethylbenzene 100-41-4	72-hr EC50 = 1.7-7.6 mg/l Algae	96-hr LC50 = 4 mg/L Rainbow trout	-	48-hr EC50 = 1-4 mg/L Daphnia magna
Benzene 71-43-2	72-hr EC50 = 29 mg/l Algae	96-hr LC50 = 5.3 mg/l Rainbow trout (flow-through)	-	48-hr EC50 = 8.76-15.6 mg/l Daphnia magna (Static)
Cyclohexane 110-82-7	72-hr EC50 = 500 mg/l Algae	96-hr LC50 = 3.96-5.18 mg/l Fathead minnow	-	48-hr EC50 = 1.7-3.5 mg/L Bay shrimp
Naphthalene 91-20-3	-	96-hr LC50 = 0.91-2.82 mg/l Rainbow trout (static) 96- hr LC50 = 1.99 mg/l Fathead minnow (static)	-	48-hr LC50 = 1.6 mg/l Daphnia magna

Persistence and degradability Expected to be inherently biodegradable. The presence of ethanol in this product may impede the biodegradation of benzene, toluene, ethylbenzene and xylene in groundwater, resulting in elongated plumes of these constituents.

Bioaccumulation Has the potential to bioaccumulate.

Mobility in soil May partition into air, soil and water.

Other adverse effects No information available.

Other Information: Avoid release to the environment.

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13. DISPOSAL CONSIDERATIONS

The user is responsible for determining if any discarded material is a hazardous waste (40 CFR 262.11). The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Shipping containers used for waste must be DOT authorized packages. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Waste packaging should be recycled or disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION

US DOT

UN Identification Number	NA 1987
Proper Shipping Name	Denatured alcohol
Hazard Class and Packing Group	3, PG II
Shipping Label	Flammable Liquid
Placard / Bulk Package	Flammable
Emergency Response Guidebook Guide Number	127

IATA Cargo

UN Identification Number	UN 1987
Shipping Name / Description	Alcohols, n.o.s.
Hazard Class and Packing Group	3, PG II
ICAO Label	Ethanol and Gasoline
Packing Instructions Cargo	364, Y341
Max Quantity Per Package Cargo	60 L

IATA Passenger

UN Identification Number	UN 1987
Shipping Name / Description	Alcohols, n.o.s.
Hazard Class and Packing Group	3, PG II
ICAO Label	3
Packing Instructions Passenger	353, Y341
Max Quantity Per Package	5 L

IMDG

UN Identification Number	UN 1987
Shipping Name / Description	Alcohols, n.o.s.
Hazard Class and Packing Group	3, PG II
IMDG Label	3
EmS Number	F-E S-E
Marine Pollutant	Yes

15. REGULATORY INFORMATION

U.S. Federal, State and Local Regulatory Information

Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and/or local reporting requirements. This product and/or its constituents may also be subject to other federal, state or local regulations; consult those regulations applicable to your facility/operation.

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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Clean Water Act (Oil Spills)

Any spill or release of this product to “navigable waters” (essentially any surface water, including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) or, if not practical, the U.S. Coast Guard with follow-up to the National Response Center, as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

SARA Section 302

This product does not contain any component(s) included on EPA's Extremely Hazardous Substance (EHS) List.

CERCLA Section 103 and SARA Section 304 (Release to the Environment)

The CERCLA definition of hazardous substances contains a “petroleum exclusion” clause which exempts crude oil, refined and unrefined petroleum products and any indigenous components of such. However, other federal reporting requirements (e.g., SARA Section 304 as well as the Clean Water Act if the spill occurs on navigable waters) may still apply.

SARA Section 304: This product may contain component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	Hazardous Substances RQs
Toluene	1000 lb final RQ 454 kg final RQ
Xylene (mixed isomers)	100 lb final RQ 45.4 kg final RQ
n-Hexane	5000 lb final RQ 2270 kg final RQ
Cumene	5000 lb final RQ 2270 kg final RQ
1,2,4 Trimethylbenzene	No CERCLA RQ
Ethylbenzene	1000 lb final RQ 454 kg final RQ
Benzene	10 lb final RQ 4.54 kg final RQ
Cyclohexane	1000 lb final RQ 454 kg final RQ
Naphthalene	100 lb final RQ 45.4 kg final RQ

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	Yes
Fire Hazard	Yes
Reactive Hazard	No
Sudden Release of Pressure Hazard	No

SARA Section 313- Supplier Notification

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372.

- Benzene (71-43-2) 0.1 % de minimis concentration
- Ethyl benzene (100-41-4) 0.1 % de minimis concentration
- n-Hexane (110-54-3) 1.0 % de minimis concentration
- Toluene (108-88-3) 1.0 % de minimis concentration
- Xylene, mixed isomers (1330-20-7) 1.0 % de minimis concentration

Information on each ingredient’s concentration can be found in Section 3 Information on each ingredient’s exposure limits can be found in Section 8.

EPA Notification (Oil Spills)

If there is a discharge of more than 1,000-gallons of oil (2%) into or upon navigable waters of the United States or if it is the second spill event of 42 gallons or more of oil into water within a twelve (12) month period, a written report must be submitted to the Regional Administrator of the EPA within sixty days of the event.

U.S. Toxic Substances Control Act

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All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30.

CEPA - Domestic Substances List (DSL)

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

State and Community Right-To-Know Regulations:

Ethyl Alcohol

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Carcinogen, initial date 4/29/11 (in alcoholic beverages) Carcinogen, initial date 7/1/88 (when associated with alcohol abuse) Developmental toxicity, initial date 10/1/87 (in alcoholic beverages)
New Jersey Right-To-Know:	SN 0844
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To-Know:	Teratogen
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Carcinogen; Flammable - third degree; Mutagen; Teratogen
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Gasoline

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	SN 0957
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To-Know:	Present
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Not Listed
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Carcinogen; Flammable - third degree
New Jersey - Environmental Hazardous Substances List:	SN 0957 TPQ: 10000 lb (Under N.J.A.C. 7:1G, environmental hazardous substances in mixtures such as gasoline or new and used petroleum oil may be reported under these categories)
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Toluene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Developmental toxicity, initial date 1/1/91 Female reproductive toxicity, initial date 8/7/09
New Jersey Right-To-Know:	SN 1866
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To-Know:	Not Listed
Florida Substance List:	Present
Rhode Island Right-To-Know:	Toxic (skin); Flammable (skin)
Michigan Critical Materials Register List:	100 lb Annual usage
Massachusetts Extraordinarily Hazardous Substances:	Not Listed

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California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Flammable - third degree; Teratogen
New Jersey - Environmental Hazardous Substances List:	Flammable - third degree; Teratogen
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	1000 lb RQ (air); 1 lb RQ (land/water)

Xylene (mixed isomers)

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	SN 2014
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To-Know:	Present
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Toxic (skin); Flammable (skin)
Michigan Critical Materials Register List:	100 lb Annual usage, all isomers
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Flammable - third degree
New Jersey - Environmental Hazardous Substances List:	SN 2014 TPQ: 500 lb
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	1000 lb RQ (air); 1 lb RQ (land/water)

n-Hexane

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	SN 1340
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To-Know:	Present
Florida Substance List:	Present
Rhode Island Right-To-Know:	Toxic Flammable
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Flammable - third degree
New Jersey - Environmental Hazardous Substances List:	SN 1340 TPQ: 500 lb
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	1 lb RQ (air); 1 lb RQ (land/water)

1,2,4 Trimethylbenzene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	SN 1929
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To-Know:	Present
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Toxic
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed

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New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Cumene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Carcinogen, initial date 4/6/10
New Jersey Right-To-Know:	SN 0542
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To-Know:	Present
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Toxic (skin); Flammable (skin)
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Flammable - third degree
New Jersey - Environmental Hazardous Substances List:	SN 0542 TPQ: 500 lb
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	5000 lb RQ (air); 1 lb RQ (land/water)

Ethylbenzene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Carcinogen, initial date 6/11/04
New Jersey Right-To-Know:	SN 0851
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To-Know:	Present
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Carcinogen; flammable - Third degree
New Jersey - Environmental Hazardous Substances List:	SN 0851 TPQ: 500 lb
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	1000 lb RQ (air); 1 lb RQ (land/water)

Benzene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Carcinogen, initial date 2/27/87 Developmental toxicity, initial date 12/26/97 Male reproductive toxicity, initial date 12/26/97
New Jersey Right-To-Know:	SN 0197
Pennsylvania Right-To-Know:	Environmental hazard; Special hazardous substance
Massachusetts Right-To-Know:	Carcinogen; Extraordinarily hazardous
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Toxic (skin); Flammable (skin); Carcinogen (skin)
Michigan Critical Materials Register List:	100 lb Annual usage threshold
Massachusetts Extraordinarily Hazardous Substances:	Carcinogen; Extraordinarily hazardous
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Present
New Jersey - Special Hazardous Substances:	Carcinogen; Flammable - third degree; Mutagen
New Jersey - Environmental Hazardous Substances List:	SN 0197 TPQ: 500 lb

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Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	10 lb RQ (air); 1 lb RQ (land/water)

Cyclohexane

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	SN 0565
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To-Know:	Present
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Flammable - third degree
New Jersey - Environmental Hazardous Substances List:	SN 0565 TPQ: 500 lb
Illinois - Toxic Air Contaminants:	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	1000 lb RQ (air); 1 lb RQ (land/water)

Naphthalene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Carcinogen, initial date 4/19/02
New Jersey Right-To-Know:	SN 1322 SN 3758
Pennsylvania Right-To-Know:	Environmental hazard Present (particulate)
Massachusetts Right-To-Know:	Present
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Carcinogen
New Jersey - Environmental Hazardous Substances List:	SN 1322 TPQ: 500 lb (Reportable at the de minimis quantity of >0.1%)
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	100 lb RQ (air); 1 lb RQ (land/water)

Canada DSL/NDSL Inventory:

This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

Canadian Regulatory Information:

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

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Ethyl Alcohol	B2, D2B	0.1%
Gasoline	B2,D2A,D2B	0.1%
Toluene	B2,D2A,D2B	0.1%
Xylene (mixed isomers)	B2,D2A,D2B	m-, o-isomers 1.0%; p-isomer 0.1%
n-Hexane	B2,D2A,D2B	1%
Cumene	B2,D2A	0.1%
1,2,4 Trimethylbenzene	B3,D2B	1%
Ethylbenzene	B2,D2A,D2B	0.1%
Benzene	B2,D2A,D2B	0.1%
Cyclohexane	B2,D2B	1%
Naphthalene	B4,D2A	0.1%

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16. OTHER INFORMATION

Revised to meet Globally Harmonized System for chemical hazard communication requirements pursuant to OSHA regulatory revisions 77 FR 17884, March 26, 2012.

Abbreviations

°F	Degrees Fahrenheit (temperature)	mg	Milligram
<	Less than	mL	Milliliter
=	Equal to	mm ²	Square millimeter
>	Greater than	mmHg	Millimeters of mercury (pressure)
AP	Approximately	ppm	Parts per million
°C	Degrees Centigrade (temperature)	sec	Second
kg	Kilogram	ug	Microgram
L	Liter		

Acronyms

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
		OPA	Oil Pollution Act of 1990
AIHA	American Industrial Hygiene Association	OSHA	U.S. Occupational Safety & Health Administration
AL	Action Level		
ANSI	American National Standards Institute	PEL	Permissible Exposure Limit (OSHA)
API	American Petroleum Institute	RCRA	Resource Conservation and Recovery Act Reauthorization Act of 1986 Title III
CAS	Chemical Abstract Service		
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act	REL	Recommended Exposure Limit (NIOSH)
		RVP	Reid Vapor Pressure
DOT	U.S. Department of Transportation	SARA	Superfund Amendments and
EC50	Ecological concentration 50%	SCBA	Self-Contained Breathing Apparatus
EPA	U.S. Environmental Protection Agency	SPCC	Spill Prevention, Control and Countermeasures
ERPG	Emergency Response Planning Guideline		
GHS	Globally Harmonized System	STEL	Short-Term Exposure Limit (generally 15 minutes)
HMIS	Hazardous Materials Information System		
IARC	International Agency for Research On Cancer	TLV	Threshold Limit Value (ACGIH)
IATA	International Air Transport Association	TSCA	Toxic Substances Control Act
IMDG	International Maritime Dangerous Goods	TWA	Time Weighted Average (8 hr.)
Koc	Soil Organic Carbon	UN	United Nations
LC50	Lethal concentration 50%	UNECE	United Nations Economic Commission for Europe
LD50	Lethal dose 50%		
MSHA	Mine Safety and Health Administration	WEEL	Workplace Environmental Exposure Level (AIHA)
NFPA	National Fire Protection Association		
NIOSH	National Institute of Occupational Safety and Health	WHMIS	Canadian Workplace Hazardous Materials Information System
NOIC	Notice of Intended Change		

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** End of Safety Data Sheet **