IN CASE OF EMERGENCY, CALL

G.J. CHEMICAL CO., INC. **CHEMTREC: (800) 424-9300**

40 VERONICA AVENUE 24 hours a day
SOMERSET NJ 08873
(973) 589-1450 8:00 pm to 5:00 pm EST

1. SUBSTANCE IDENTIFICATION

SUBSTANCE: **Specially Denatured Alcohol 29 200**

Catalog #(s): 270700

TRADE NAMES/SYNONYMS: Denatured alcohol; Denatured Ethanol, Denatured spirits

CHEMICAL FAMILY: Hydroxyl, aliphatic

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2. COMPOSITION AND INGREDIENTS INFORMATION

COMPONENT:	Ethyl Alcohol	CAS 64-7-5 EC-NO.200-578-6 INDEX-NO.603-002-00-5	Percent: 98.9%
COMPONENT:	Ethyl Acetate	CAS# 141-78-6 EC-No.205-500-4 Index Number 607-022-00-5 Registration No. 01-2119475103-46-XXXX	Percent: 1.10%
COMPONENT:	Water	CAS 7732-18-5 EC-NO. 231-791-2	Percent: 0.10% max
COMPONENT:	Non-Volatile Matter		Percent: 0.001% max

COMPONENT: Less than 0.5% miscellaneous organic contaminants not tested for.

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3. HAZARDS IDENTIFICATION

Specially Denatured Alcohol 29 200 is a watery liquid with a characteristic sweetish alcohol odor.

EMERGENCY OVERVIEW:
DANGER!
~ Flammable liquid with an irritating vapor.
~Vapor is harmful and may be fatal or cause blindness if swallowed.
~Affects central nervous system.
~Causes irritation to eyes, skin and respiratory tract.
~Denatured Alcohol is a probable human carcinogen (IARC).

GHHS CLASSIFICATION
Flammable liquids (Category 2)
Skin irritation (Category 2)
Eye irritation (Category 2B)
Specific target organ toxicity - single exposure (Category 3)

GHS Label elements, including precautionary statements

Pictogram
Signal word Danger
Hazard statement(s)
H225 Highly flammable liquid and vapor.
H315 + H320 Causes skin and eye irritation.
H335 May cause respiratory irritation.
Precautionary statement(s)
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

CERCLA RATINGS (SCALE 0-3):	Health=2	Fire=3	Reactivity=1	Persistence=0
NFPA RATINGS (SCALE 0-4):	Health=2	Fire=3	Reactivity=1	
HMIS RATINGS (SCALE 0-4):	Health=2	Fire=3	Reactivity=1	PPE=G

EXPOSURE LIMITS:

Ethyl Alcohol (Ethanol):

1000 PPM (1880 MG/M3) OSHA TWA
1000 PPM (1880 MG/M3) ACGIH TWA
1000 PPM (1880 MG/M3) NIOSH RECOMMENDED TWA
1000 PPM (1880 MG/M3) DFG MAK TWA;
2000 PPM (3760 MG/M3) DFG MAK 60 MINUTE PEAK, MOMENTARY VALUE, 3 TIMES/SHIFT

Ethyl Acetate:

400 PPM (1440 MG/M3) OSHA TWA
400 PPM (1440 MG/M3) ACGIH TWA
400 PPM (1440 MG/M3) NIOSH RECOMMENDED TWA
400 PPM (1440 MG/M3) DFG MAK TWA;
800 PPM (2880 MG/M3) DFG MAK 5 MINUTE PEAK, MOMENTARY VALUE, 8 TIMES/SHIFT

Primary Routes of Exposure: Inhalation, Ingestion, Skin and eye contact.

Acute Effects: Irritation of mucus membranes, eyes, nose, throat and membranes of the upper respiratory tract. Central nervous system depression resembling intoxication by ethy alcohol. Excitation is followed by impaired motor coordination, slurred speech, sensory disturbances such as blurred and double vision, drowsiness, loss of appetite, and an inability to concentrate.
Irritation to skin results in cracking and flaking due to defatting action of the alcohol. High exposure can cause gastritis, blindness and death. Splashes may cause temporary pain and blurred vision.

Chronic Effects: Irritation of the eyes, nose, throat and mucus membranes of the upper respiratory tract. Central nervous system effects such as dizziness and sleepiness can occur, as can dryness, irritation and inflammation of the skin. The denaturants in this formulation may cause chronic kidney and liver damage. Continued ingestion of small amounts may result in blindness. Chronic exposure may cause cancer.

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4. FIRST-AID PROCEDURES

INHALATION: CARCINOGEN/NARCOTIC/IRRITANT.

ACUTE EXPOSURE-

ETHYL ALCOHOL: may cause nasal irritation, cough, and at high levels, a feeling or suffocation. Central nervous system depression may occur.

ETHYL ACETATE: Inhalation of 400 PPM for 3-5 minutes has caused respiratory tract irritation in humans. Low vapor concentrations may also cause headache, coughing, dizziness, drowsiness, and shortness of breath. High concentrations may cause narcotic effects with anesthesia and unconsciousness and renal and hepatic damage. Pathologic findings have included marked hyperemia of the respiratory tract, pulmonary edema, hemorrhagic gastritis, and hyperemia of the spleen and kidneys.

CHRONIC EXPOSURE-

ETHYL ALCOHOL: Repeated or prolonged exposure to may cause respiratory irritation, headache, and symptoms or central nervous system depression, such as lack of concentration and somnolence.

ETHYL ACETATE: No adverse symptoms were observed in workers exposed to 375-1500 PPM for several months. Animal studies indicate that 4450 PPM for 1 hour daily for 40 days caused secondary anemia, leukocytosis, and liver and kidney damage. In rare instances, repeated exposure may result in sensitization with mucous membrane irritation and eczematous eruptions.

***FIRST AID:* Remove from exposure area to fresh air immediately. If breathing has stopped, give artificial respiration. Maintain airway and blood pressure and administer oxygen if available. Keep affected person warm and at rest. Administration of oxygen should be performed by qualified personnel. Get medical attention immediately.**

SKIN CONTACT: IRRITANT/NARCOTIC.

ACUTE EXPOSURE-

ETHYL ALCOHOL: Causes no immediate irritating effects.

ETHYL ACETATE: Direct contact with the liquid may cause irritation with redness and de-fatting action on the skin.

CHRONIC EXPOSURE-

ETHYL ALCOHOL: Repeated and prolonged contact may cause dermatitis.

ETHYL ACETATE: Repeated or prolonged exposure may cause de-fatting dermatitis. In rare instances, repeated exposure may result in sensitization with eczematous eruptions.

***FIRST AID*- Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.**

EYE CONTACT: CORROSIVE.

ACUTE EXPOSURE-

ETHYL ALCOHOL: Vapors at 5,000-10,000 PPM may cause temporary irritation. Direct contact may cause immediate burning, lacrimation, temporary injury, of the cornea and hyperemia of the conjunctiva.

ETHYL ACETATE: Direct contact with the liquid may cause irritation, with redness, pain, and lacrimation. Exposure to 400 PPM may cause a sensation of irritation in humans. Application of 2 drops to rabbit corneas, followed 2 minutes later by rinsing with water, caused immediate fine optical irregularity of the corneal epithelium, which returned to normal in 2 days.

CHRONIC EXPOSURE-

ETHYL ALCOHOL: May cause conjunctivitis.

ETHYL ACETATE: Repeated or prolonged exposure may cause conjunctivitis and cornea clouding. Rabbits exposed to the vapor at levels which would be scarcely tolerable to humans caused no corneal damage despite being exposed for 8 hours/day for 5 days-week for up to 7 weeks.

***FIRST AID*- Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains (at least 15-20 minutes). In case of burns, apply sterile bandages loosely without medication. Get medical attention immediately.

INGESTION: NARCOTIC.

ACUTE EXPOSURE-

ETHYL ALCOHOL: May cause emotional lability and decreased inhibitions, with exhilaration, boastfulness, talkativeness, remorse, and belligerency. Moderate intoxication leads to impaired muscular coordination, slowed reactions, slurred speech, ataxia, and slight visual disturbance. Severe poisoning results in sensory disturbance or loss, with vertigo and diplopia, flushing of the face, rapid pulse, sweating, nausea and vomiting, and involuntary defecation and urination. Central nervous system depression is indicated by dizziness, drowsiness, stupor, and other signs of narcosis, progressing to coma, with impaired or absent tendon reflexes. Convulsions may occur from hypoglycemia. The pupils may be normal or dilated. Shock may follow, with hypotension, tachycardia, cold pale skin, and hypothermia. Respiration may be slow. Death may occur from respiratory or circulatory failure or from aspiration pneumonitis. Recovery from poisoning may be accompanied by headache, gastritis, infection, or psychoses with uncontrollable fear, insomnia, tremors, and restlessness, followed by visual, auditory, or gustatory hallucinations. Exaggerated reflexes, tachycardia, and convulsions are possible.

ETHYL ACETATE: Ingestion of small amounts may cause sore throat, abdominal pain, and diarrhea. Large amounts may cause central nervous system depression, with dizziness, headache, weakness, fatigue, drowsiness, and unconsciousness. Poisoning may cause congestion of the liver and kidneys.

CHRONIC EXPOSURE-

ETHYL ALCOHOL: Repeated or prolonged exposure to ethyl alcohol may cause weight loss, cirrhosis, and gastroenteritis with anorexia diarrhea. Polyneuritis with pain, motor and sensory loss in the extremities, and optic atrophy may occur. Amnesia, tremors, confusion, impaired judgement, and loss or impaired mental abilities are possible.Years of chronic ingestion has caused acute myopathy, with tender, aching muscles with muscular edema and degeneration. The heart may be affected, causing palpitations. Extrasystole, tachycardia, arrhythmias, which may progress to irreversible myocardial fibrosis and circulatory failure.

ETHYL ACETATE: Animals fed 1000 MG/KG for 1 month showed no effects.

**<u>*FIRST AID-* Remove ethyl alcohol by gastric lavage with tap water or emesis (Dreisbach, Handbook of Poisoning, 11th ed.) or by gastric lavage with warm water or 3-5% sodium bicarbonate solution unless two hours or more have passed since ingestion (Gosselin, Clinical Toxicology of Commercial Products). Syrup of ipecac may be given promptly following ingestion.</u>

****ANTIDOTE**:** Naloxone, 0.01 MG/KG intravenously, has an arousal effect in acute alcoholic coma. (Dreisbach, Handbook of Poisoning, 11th ed.)

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5. FIRE FIGHTING PROCEDURES

FIRE AND EXPLOSION HAZARD:
DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.
VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK.
VAPOR-AIR MIXTURES ARE EXPLOSIVE ABOVE FLASH POINT.

FLASH POINT: 56°F (14°C) (CC)
LOWER EXPLOSIVE LIMIT: 3.5%
FLAMMABILITY CLASS (OSHA): 1B
ELECTRICAL HAZARD: CLASS I GROUP D
UPPER EXPLOSIVE LIMIT: 21.2%
AUTOIGNITION TEMP: 404°F
BURN RATE: 3.9mm/min

FIRE FIGHTING MEDIA:

DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR ALCOHOL-RESISTANT FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).
FOR LARGER FIRES, USE WATER SPRAY, FOG OR ALCOHOL-RESISTANT FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

FIRE RESPONSE PROCEDURES: Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Stay away from ends of tanks. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in fire (1990 Emergency Response Guidebook, DOT P 5800.5), Guide page 26).
Extinguish only if flow can be stopped. Use flooding amounts of water as fog: solid streams may be ineffective. Cool containers with flooding amounts of water from as far a distance as possible. Avoid breathing vapors; keep upwind. Fire fighters should wear full protective clothing and NIOSH approved self contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Water spray can be used to extinguish fires and cool fire-exposed containers. Water may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Dangerous fire hazard when exposed to heat. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area.

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6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL SPILL:
Shut off ignition sources. Do not touch spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors. For small spills, take up with sand or other absorbent material and place into containers for later disposal. For larger spills, dike far ahead of spill for later disposal. No smoking, flames, or flares in spill area! Keep unnecessary people away; Isolate hazard area and deny entry.

REPORTABLE QUANTITY (RQ): 5000 POUNDS
The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater then the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the national response center must be notified immediately at (800) 424-8882 or (202) 426-2675 in the metropolitan Washington, D. C. area (40 CFR 302.6).

7. HANDLING AND STORAGE

OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.
STORE IN ACCORDANCE WITH 29 CFR 1910.126.

Denatured alcohol is a class Ib flammable liquid (NFPA). Following maximum allowed pile heights specified in the BOCA codes or the NFPA manual. Local fire authorities should be notified for storage of this material in any quantity. Local permits are required for storage in warehouse quantities.
BONDING AND GROUNDING: SUBSTANCES WITH LOW ELECTROCONDUCTIVITY, WHICH MAY BE IGNITED BY ELECTROSTATIC SPARKS, SHOULD BE STORED IN CONTAINERS WHICH MEET THE BONDING AND GROUNDING GUIDELINES SPECIFIED IN NFPA 77-1983, RECOMMENDED PRACTICE ON STATIC ELECTRICITY. STORE AWAY FORM INCOMPATIBLE SUBSTANCES.

Store in a well ventilated place, away from sources of ignition and direct sunlight. Store at 15 to 30 C (59 to 86 F). In laboratory quantities, store away from oxidizing material, mineral acids, and chloroform. In Warehouse quantities, follow NFPA and BOCA guidelines for storage of flammable liquids.
Store denatured alcohol in areas equipped with automatic sprinklers or fire extinguishing system.

All denatured alcohol storage and transfer equipment should be electrically grounded and bonded to prevent possible ignition from static sparks. Use spark resistant equipment to store denatured alcohol. So not use air pressure to unload denatured alcohol from containers. Containers of this material may be hazardous when empty. Since emptied containers retain product residues, assume emptied containers to have the same hazard qualities as full containers.

General Handling: Keep away from heat, sparks and flame. Keep container tightly closed and upright to prevent leakage. Use only with adequate ventilation. Prevent buildup of vapors. Extinguish all pilot lights and turn off heater, non explosion-proof electrical equipment and other sources of ignition during use and until all vapors are gone. Avoid contact with eyes. Avoid prolonged or repeated breathing of vapor. Avoid prolonged or repeated contact with skin. Wash hands thoroughly after handling.

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8. EXPOSURE CONTROL (PERSONAL PROTECTION)

VENTILATION:
Provide local exhaust ventilation and/or general dilution ventilation to meet published exposure limits.

RESPIRATION:
The following respirators are recommended based on information found in the physical data, toxicity and health effects sections. They are ranked in order from minimum to maximum respiratory protection. The specific respirator selected must be based on contamination levels found in the work place, must be based on the specific operation, must not exceed the working limits of the respirator and must be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA).

Any chemical cartridge respirator with organic vapor cartridge(s) and a full face-piece.

Any gas mask with organic vapor canister (chin style or front- or back- mounted canister), with a full face piece.

Any type 'C' supplied-air respirator with a full face piece operated in pressure-demand or other positive-pressure mode or with a full face-piece, helmet or hood operated in a continuous-flow mode.

Any self-contained breathing apparatus with a full face-piece operated in pressure-demand or other positive-pressure mode.

FOR FIRE FIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:

Any self-contained breathing apparatus that has a full face-piece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator that has a full face-piece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

CLOTHING:
Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

GLOVES:
Employee must wear appropriate protective gloves to prevent contact with this substance.

EYE PROTECTION:
Employee must wear splash-proof or dust-resistant goggles to prevent eye contact with this substance.

EMERGENCY EYE WASH:
Where this is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain within the immediate work area for emergency use.

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9. PHYSICAL DATA

DESCRIPTION: Clear, colorless liquid **BOILING POINT: 172°F (78° C)**
MELTING POINT: -174°F (-114.5°C) **SPECIFIC GRAVITY: .794-.797**
VAPOR PRESSURE: 40 mm Hg @ 20°C **SOLUBILITY IN WATER: SOLUBLE**
ODOR THRESHOLD: 10 PPM **VAPOR DENSITY: 1.59**
SOLVENT SOLUBILITY: BENZENE, ETHER, ACETONE, CHLOROFORM, WATER
CRITICAL TEMP. 243.1°C
Boiling Point: 172°C **MOLECULAR WEIGHT = 46.07 Ethanol**
Flash Point: TCC 56°F

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10. STABILITY AND REACTIVITY INFORMATION

REACTIVITY: Stable under normal temperatures and pressures (Ethyl alcohol),

INCOMPATIBILITIES: Violent reaction with NITRIC ACID, ACETYL CHLORIDE, and ACETYL BROMIDE. Ignition may occur in reactions with BROMINE PENTAFLUORIDE, CHROMIC ANHYDRIDE, CHROMYL CHLORIDE, PERMANGANIC ACID, PLATINUM, POTASSIUM DIOXIDE, POTASSIUM-TERT-BUTOXIDE, and HYDROGEN PEROXIDE/SULFURIC ACID MIXTURES. Explosions may occur from reactions with ALUMINUM SESQUIBROMIDE ETHYLATE, BROMINE PENTAFLUORIDE, CALCIUM HYPOCHLORITE, HYDROGEN PEROXIDE-SULFURIC ACID MIXTURES, IODINE-MERCURIC OXIDE MIXTURES, MANGANESE PERCHLORATE-2,2-DIMETHOXY

PROPANE MIXTURES.
Some PERCHLORATES RECRYSTALLIZED FROM ETHANOL (such as SILVER PERCHLORATE and URANYL PERCHLORATE), PERCHLORIC ACID, PERMANGANATES treated with SULFURIC ACID, PERMANGANIC ACID, POTASSIUM SUPEROXIDE, SODIUM HYDRAZIDE, and SULFURIC ACID-SODIUM DICHROMATE MIXTURES. Explosive compounds may be formed in reactions with AMMONIUM HYDROXIDE-SILVER(I) OXIDE MIXTURES, HYDROGEN PEROXIDE, IODINE-PHOSPHORUS, SILVER/NITRIC ACID, and SILVER NITRATE. CHROMYL CHLORIDE CAUSES ETHANOL AND AMMONIA TO IGNITE. CONTACT WITH STRONG OXIDIZERS MAY CAUSE FIRES OR EXPLOSIONS. REACTIONS WITH ALKALI METALS LIBERATE FLAMMABLE HYDROGEN GAS. (ETHYL ALCOHOL)

INCOMPATIBILITIES: ETHYL ALCOHOL (ETHANOL):

ACETIC ANHYDRIDE AND SODIUM HYDROGEN SULFATE: Possible explosion.
ACETYL CHLORIDE: Violent reaction.
ACETYL BROMIDE: Violent reaction.
ALKALI METALS: Liberates flammable hydrogen gas.
ALUMINUM HYDROXIDE AND SILVER (I) OXIDE: Formation of explosive silver nitride.
BARIUM PERCHLORATE: Formation of explosive compound.
BROMINE PENTAFLUORIDE: Ignition and explosions are possible.
CALCIUM HYPOCHLORITE: Possible explosion.
CHLORINE TRIOXIDE: Violent reaction.
CHLORYL PERCHLORATE: Possible ignition.
CHRONIC ANHYDRIDE: Ignition.
CHROMIUM TRIOXIDE: Possible ignition.
CHROMYL CHLORIDE: Ignition.
DIOXYGEN DIFLUORIDE: Possible explosion.
DISULFURIC ACID AND NITRIC ACID: Possible ignition.
DISULFURYL DIFLUORIDE: Violent reaction.
FLUORINE NITRATE: Explosion.
HYDROGEN PEROXIDE: Formation of highly explosive shock-sensitive compound.
HYDROGEN PEROXIDE-SULFURIC ACID MIXTURE: Explosion.
IODINE HEPTAFLUORIDE: Ignition
IODINE-MERCURIC OXIDE-METHYL ALCOHOL MIXTURE: Possible explosion.
IODINE AND PHOSPHORUS: Formation of explosive ethane iodide.
MANGANESE PERCHLORATE AND 2,2-DIMETHOXY PROPANE: Possible explosion.
MERCURIC NITRATE: Formation of explosive compound.
NITRIC ACID: Violent reaction.
NITROSYL PERCHLORATE: Possible explosion.
OXIDIZERS (STRONG): Fire and explosion hazard.
PERCHLORATES: May form explosive compound when mixed.
PERCHLORIC ACID: Explosion.
PERMANGANIC ACID: Ignition or explosion.
PERMANGANATES AND SULFURIC ACID: Explosion.
PEROXYDISULFURIC ACID: Possible explosion.
PHOSPHORUS(III) OXIDE: Ignition.
PLATINUM: Ignition.
POTASSIUM: Violent reaction.
POTASSIUM DIOXIDE: Violent reaction, possible explosion.
POTASSIUM PERCHLORATE: Possible explosion.
POTASSIUM PERMANGANATE: Possible explosion.
POTASSIUM TERT-BUTOXIDE: Ignition.
RUTHENIUM(VIII) OXIDE: Formation of explosive compound.
SILVER AND NITRIC ACID: Formation of explosive compound.

SILVER NITRATE: Formation of explosive compound.
SILVER PERCHLORATE: May form explosive compound when mixed.
SODIUM-AIR: Possible explosion.
SODIUM HYDRAZIDE: May cause violent explosion on contact.
SODIUM PEROXIDE: Violent reaction.
SULFURIC ACID AND SODIUM DICHROMATE: Possible explosion.
TETRACHLOROSILANE: Violent reaction.
URANIUM HEXAFLUORIDE: Violent reaction.
URANYL PERCHLORATE: May form explosive compound when mixed.
See also alcohols.

DECOMPOSITION:
Thermal decomposition products may include toxic and hazardous fumes by formaldehyde and oxides of carbon.
POLYMERIZATION:
Hazardous polymerization has not been found to occur under normal temperatures and pressures.

11. TOXICOLOGICAL INFORMATION

ETHYL ALCOHOL (ETHANOL):
IRRITATION DATA: 400 MG open skin-rabbit mild; 20 MG/24 hours skin-rabbit moderate; 500 MG/24 hours eye-rabbit mild; 500 MG eye-rabbit severe; 100 MG/4 seconds rinsed eye-rabbit moderate.
ACUTE TOXICITY DATA:
7060 MG/KG oral-rat LD50
963 MG/KG dermal-rabbit LD50
20,000PPM/10 hours inhalation-rat LC50

TOXICITY DATA: ; 39 GM/M3/4 hours inhalation-mouse LC50; 21,900 PPM inhalation-guinea pig LCLO; 20 GM/KG skin rabbit LDLO; 700 MG/KG oral-man TOLO; 2000 MG/KG oral-child LDLO; 14,400 MG/KG/30 minutes intermittent oral-child TDLO; 50 MG/KG oral-man TDLO; 1430 UG/KG oral-man TDLO; 256 GM/KG/12 weeks oral-woman TDLO; 1400 MG?KG oral-human LDLO; 3450 MG/KG oral-mouse LD50; 6000 MG/KG oral-cat LDLO; 5500 MG/KG oral-dog LDLO; 6300 MG/KG oral-rabbit LD50; 5560 MG/KG oral-guinea pig LD50; 19,440 MG/KG subcutaneous-infant LDLO; 8285 MG/KG subcutaneous-mouse LD50; 2374 MG/KG intravenous-dog LDLO; 1973 MG/KG intravenous-mouse LD50; 2374 MG/KG intravenous-rabbit LD50; 4300 MG/KG intraperitoneal-mammal LD50; 3000 MG/KG intraperitoneal-dog LDLO; 3600 UG/KG intraperitoneal-rat LD50; 933 MG/KG intra-mouse LD50, 3414 MG/KG intraperitoneal-guinea pig LD50; 11 Mg/Kg intraarterial-rat LD50; 36 GM/KG parenteral-frog LDLO; mutagenic data (RTECS); reproductive effects data (RTECS); tumorigenic data (RTECS).

CARCINOGEN STATUS: Potential Human Carcinogen (IARC group-1 for alcoholic beverages).
LOCAL EFFECTS: Irritant-inhalation, skin, eye.
ACUTE TOXICITY LEVEL: Slightly toxic by inhalation and ingestion.
TARGET EFFECTS: Central nervous system depressant; hepatotoxin.
Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available
Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available
AT INCREASED RISK FROM EXPOSURE: Persons with liver disease.
ADDITIONAL DATA: Allergic reactions to alcohols have been reported.

ETHYL ACETATE
ACUTE TOXICITY DATA:
ORAL LD50 RAT 5.6-10.17g/kg
DERMAL RABBIT LD50: >180000mg/kg
INHALATION RAT LC50: >29.3mg/l/4hr

Specific target organ toxicity - single exposure (Globally Harmonized System)
May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

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12. ECOLOGICAL INFORMATION

DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS
May be dangerous if it enters water intakes.
Notify local health and wildlife officials.
Notify operators of nearby water intakes.

ETHYL ALCOHOL:
AQUATIC TOXICITY: 250 PPM/6 hours-lethal to goldfish in fresh water
WATERFOWL TOXICITY: Data not available
BIOLOGICAL OXYGEN DEMAND (BOD): 125% 5 days, 44.2% (theor.) 5 days, 71.2% (theor.) 20 days
FOOD CHAIN CONCENTRATION POTENTIAL: None
OCTONAL/WATER PERTITION COEFFICIENT: -.31

ETHYL ACETATE
Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 350.00 - 600.00 mg/l - 96 h
LC50 - Pimephales promelas (fathead minnow) - 220.00 - 250.00 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 2,300.00 - 3,090.00 mg/l - 24 h
LC50 - Daphnia magna (Water flea) - 560 mg/l - 48 h
Toxicity to algae EC50 - Algae - 4,300.00 mg/l - 24 h
EC50 - SELENASTRUM - 1,800.00 - 3,200.00 mg/l - 72 h

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13. DISPOSAL CONSIDERATIONS

Denatured Alcohol is a not otherwise specified (N.O.S.) toxic mixture of ethyl, methyl and isopropyl alcohol.
RCRA: The unused product is a RCRA hazardous waste if discarded. The RCRA ID number is: D001&U112 or the appropriate spent solvent code.
DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 48 CFR 262

OTHER DISPOSAL CONSIDERATIONS: The waste material should be treated and/or disposed of at site authorized to handle hazardous chemical waste. Appropriate Federal, State and Local Regulatory Authorities should be contacted before discharge, treatment or disposal of waste material.
The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

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14. TRANSPORT INFORMATION

HM-181 DOT DESCRIPTION: Denatured Alcohol,, 3, UN1987,PG II
Proper shipping name: Alcohols, n.o.s.
Hazard class or Division: 3
Identification Numbers: UN1987
Packing Group: II

Label(s) Required (if not excepted): 3, Flammable Liquid.
Special Provisions: 172, IB2, T7, TP1, TP8 TP28; Refers to transportation of IM portable tanks
Packaging authorizations: Exceptions:173.150
Non-bulk packaging: 173.202: for liquid hazardous material in packing group I
Bulk-packaging: 173.242: for liquid hazardous material
Quantity Limitations: Passenger aircraft or railcar: 5L
Cargo aircraft only: 60 L
Vessel stowage requirements: B
Other Stowage Provisions: N/A

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15. REGULATORY INFORMATION

SARA TITLE III (Superfund Amendment and Reauthorization Act)

SECTION 302 AND 304: Extremely Hazardous Substance List (40 CFR 355)- Not Listed
SECTION 311: Hazard Categorization (40 CFR 370)- Acute, Chronic, and Fire
SECTION 313: Not Listed

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)

SECTION 102(A) Hazardous Substances (40 CFR 302.4)- Listed
Reportable Quantity - 5,000 pounds - Ethyl Acetate
SECTION 101(14) Reportable Quantity: 5,000 lbs

RCRA (Resource Conservation and Recovery Act.)

40 CFR 261.33 Hazardous Waste Number: D001&U112 or appropriate Spent Solvent Number.

Massachusetts Right To Know Components
Ethyl Acetate CAS-No.141-78-6
Ethanol CAS-No. 64-17-5
Pennsylvania Right To Know Components
Ethyl Acetate CAS-No.141-78-6
Ethanol CAS-No.64-17-5
New Jersey Right To Know Components
Ethyl Acetate CAS-No.141-78-6
Ethanol CAS-No.64-17-5
California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

ATF (Alcohol Tobacco and Firearms)

Denatured Alcohol, formula 29 is regulated by the ATF and subject to certain record keeping and reporting requirements.

TSCA (Toxic Substance Control Act)

No information available

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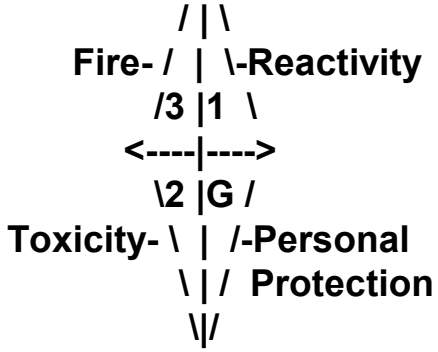
16. OTHER INFORMATION:

HMIS (Hazardous Materials Identification System)
Hazard Rating: **/|**

4-Extreme
3-High
2-Moderate
1-Slight
0-Insignificant



Date of preparation-------> January 17, 2007
Revision Number----------> 1.2
Revision Date-------------> December 20, 2013

Product specification sheets are also available.
Ethanol as manufactured by G.J. Chemical Co., Inc. is intended for legal use in laboratories and manufacturing environments.

Acronyms:

ACGIH	-	American Conference of Governmental Industrial Hygenists
AIHA	-	American Industrial Hygiene Association
ANSI	-	American Nation Standards Institute
API	-	American Petroleum Institute
CERCLA	-	Comprehensive Emergency Response, Compensation, and Liability Act
DOT	-	U.S. Department of Transportation
EPA	-	U.S. Environmental Protection Agency
HMIS	-	Hazardous Materials Information System
IARC	-	International Agency For Research On Cancer
MSHA	-	Mine Safety and Health Administration
NFPA	-	National Fire Protection Association
NIOSH	-	National Institute of Occupational Safety and Health
NOIC	-	Notice of Intended Change (Proposed change to ACGIH TLV)
NTP	-	National Toxicology Program
OPA	-	Oil Pollution Act of 1990
OSHA	-	U.S. Occupational Safety & Health Administration
PEL	-	Permissible Exposure Limit (OSHA)
RCRA	-	Resource Conservation and Recovery Act
REL	-	Recommended Exposure Limit (NIOSH)
SARA	-	Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA	-	Self-Contained Breathing Apparatus
STEL	-	Short-Term Exposure Limit (generally 15 minutes)
TLV	-	Threshold Limit Value
TSCA	-	Toxic Substances Control Act
TWA	-	Time Weighted Average (8hr.)
WHMIS	-	Canadian Workplace Hazardous Materials Information System