



Post Apple Scientific, Inc.
8893 Gulf Rd., North East, PA 16428-4298
Emergency Phone Number: 1-800/424-9300

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Ethyl Alcohol, Denatured
Catalog Numbers: C3695, C3700, C3710
Synonyms:

Ethanol denatured, grain alcohol denatured, ethyl hydroxide denatured, ethyl hydrate denatured, algarin denatured

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%
64-17-5 200-578-6	Ethyl Alcohol	85.4-92.
67-56-1 200-659-6	Methyl alcohol	3.6
67-63-0 200-661-7	Isopropyl alcohol	25 ppm
67-64-1 200-662-2	Acetone	2 ppm
71-43-2 200-753-7	Benzene	trace

200-836-8	75-07-0	Acetaldehyde	10 ppm
203-550-1	108-10-1	Methyl isobutyl ketone	1.9
203-625-9	108-88-3	Toluene	0.80%
205-500-4	141-78-6	Ethyl acetate	1.3
231-791-2	7732-18-5	Water	5.0%
265-192-2	64742-89-8	Solvent naphtha (petroleum), light ali phatic	0.72-0.7
unlisted	308082-09-9	Gasoline, aviation	1

Hazard Symbols: F
Risk Phrases: 11

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Appearance: clear, colorless. Flash Point: 13 deg C.
 Danger! May cause skin irritation. Flammable liquid. May cause central nervous system depression. May be absorbed through intact skin. Causes severe eye irritation. May cause liver and kidney damage. May cause reproductive and fetal effects.
 Target Organs: Kidneys, central nervous system, liver.

Potential Health Effects

Eye:

Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause painful sensitization to light. Vapors may cause eye irritation.

Skin:

May cause skin irritation. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. May be absorbed through the skin.

Ingestion:

May cause systemic toxicity with acidosis. May cause liver and kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.

Inhalation:

Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause respiratory tract irritation. May cause effect similar to those described for ingestion. May cause drowsiness, unconsciousness, and central nervous system depression.

Chronic:

Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. Prolonged or repeated skin contact may cause defatting and dermatitis. Prolonged or repeated exposure may cause adverse reproductive effects. May cause fetal effects.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin:

Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion:

If victim is conscious and alert, give 2-4 cupfuls of milk or water.

Never give anything by mouth to an unconscious person. Get medical aid. Induce vomiting by giving one teaspoon of Syrup of Ipecac.

Inhalation:

Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician:

Treat symptomatically and

**** SECTION 5 - FIRE FIGHTING MEASURES ****

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Flammable liquid and vapor. May form explosive peroxides. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media:

In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after fire is out.

Autoignition Temperature: 363 deg C (685.40 deg F)

Flash Point: 16.66 deg C (61.99 deg F)

Explosion Limits, lower: 3.3 (ethanol)

Explosion Limits, upper: 19 (ethanol)

NFPA Rating: (estimated) Health: 1; Flammability: 3; Reactivity: 0

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth) then place in suitable container. Remove all sources of ignition. Vapor suppressing foam may be used to reduce vapors.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

Wash thoroughly after handling. Use with adequate ventilation. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze,

solder, drill, grind, or expose empty containers to heat, sparks c
open flames.

Storage:

Keep away from heat, sparks, and flame. Keep away from sources of
ignition. Store in a tightly closed container. Store in a cool,
dry,
well-ventilated area away from incompatible substances.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne
concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final
Ethyl Alcohol	1000 ppm	1000 ppm TWA; 1900 mg/m3 TWA	1000 ppm TWA; 1900 mg/m3
Methyl alcohol	200 ppm; 250 ppm STEL; skin - potential for cutaneous absorption	200 ppm TWA; 260 mg/m3 TWA 6000 ppm IDLH	200 ppm TWA; mg/m3 TWA
Isopropyl alcohol	(400 ppm); (500ppm) STEL	400 ppm TWA; 980 mg/m3 TWA 2000	400 ppm TWA; mg/m3 TWA

			ppm IDLH (10	
			percent lower	
			explosive limit)	

Acetone	500 ppm; 750 ppm	250 ppm TWA; 590	1000 ppm TWA;	
TWA	STEL	mg/m3 TWA 2500	2400 mg/m3	
		ppm IDLH (10		
		percent lower		
		explosive level)		

Benzene	0.5 ppm; 2.5 ppm	0.1 ppm TWA;	10 ppm TWA	
industry	STEL; skin -	NIOSH Potential	(apply only t	
25	potential for	Occupational	exempt	
TWA;	cutaneous	Carcinogen - see	segments); C	
0.5	absorption	Appendix A	ppm; 1 ppm	
		Potential NIOSH	5 ppm STEL;	
		carcinogen.	ppm TWA actic	
			limit; Cancer	
			hazard;	
2			Flammable (se	
1910.1028)			9 CFR	

Acetaldehyde	C 25 ppm	NIOSH Potential	200 ppm TWA;	
360		Carcinogen - see	mg/m3 TWA	

			Appendix A; see	
			Appendix C	
			(Aldehydes) for	
			supplementary	
			exposure limits	
			Potential NIOSH	
			carcinogen.	

Methyl isobutyl ketone	50 ppm; 75 ppm STEL	50 ppm TWA; 205 mg/m3 TWA 500 ppm IDLH	100 ppm TWA; mg/m3 TWA	

Toluene	50 ppm; skin - potential for cutaneous absorption	100 ppm TWA; 375 mg/m3 TWA 500 ppm IDLH	200 ppm TWA; 300 ppm; C 30 ppm	

Ethyl acetate	400 ppm	400 ppm TWA; 1400 mg/m3 TWA 2000 ppm IDLH (10 percent lower explosive limit)	400 ppm TWA; 1400 mg/m3 TWA	

Water	none listed	none listed	none listed	

Solvent naphtha (petroleum), light aliphatic	none listed	none listed	none listed
Gasoline, aviation	none listed	none listed	none listed

OSHA Vacated PELs:

Ethyl Alcohol:

1000 ppm TWA; 1900 mg/m3 TWA

Methyl alcohol:

200 ppm TWA; 260 mg/m3 TWA; 250 ppm STEL; 325 mg/m3 STEL

Isopropyl alcohol:

400 ppm TWA; 980 mg/m3 TWA; 500 ppm STEL; 1225 mg/m3 STEL

Acetone:

750 ppm TWA; 1800 mg/m3 TWA; 1000 ppm STEL; 2400 mg/m3 STEL (The acetone STEL does not apply to the cellulose

Benzene:

10 ppm TWA (unless specified in 1910.1028); 50 ppm STEL (10 min) (unless specified in 1910.1028); C 25 ppm (unless specified in 1910.1028)

Acetaldehyde:

100 ppm TWA; 180 mg/m3 TWA; 150 ppm STEL; 270 mg/m3 STEL

Methyl isobutyl ketone:

50 ppm TWA; 205 mg/m3 TWA; 75 ppm STEL; 300 mg/m3 STEL

Toluene:

100 ppm TWA; 375 mg/m3 TWA; 150 ppm STEL; 560 mg/m3 STEL

Ethyl acetate:

400 ppm TWA; 1400 mg/m3 TWA

Water:

No OSHA Vacated PELs are listed for this chemical.

Solvent naphtha (petroleum), light aliphatic:

No OSHA Vacated PELs are listed for this chemical.

Gasoline, aviation:

No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State:	Liquid
Appearance:	clear, colorless
Odor:	aromatic odor
pH:	No data
Vapor Pressure:	25 mm Hg
Vapor Density:	1.6 (ethanol)
Evaporation Rate:	2.0
Viscosity:	Not available.
Boiling Point:	173.3 deg F
Freezing/Melting Point:	-90 deg C
Decomposition Temperature:	Not available.
Solubility in water:	Soluble in water.
Specific Gravity/Density:	0.7905
Molecular Formula:	Mixture.
Molecular Weight:	Not available.

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

Stable. This material may be sensitive to peroxide formation.

Conditions to Avoid:

This material may be sensitive to peroxide formation., incompatible materials, ignition sources.

Incompatibilities with Other Materials:

Isopropanol is susceptible to autoxidation and therefore should be classified as peroxidizable., acids (mineral, non-oxidizing, e.g. hydrochloric acid, hydrofluoric acid, muriatic acid, phosphoric acid), acids (mineral, oxidizing, e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), acids (organic, e.g. acetic acid,

benzoic acid, formic acid, methanoic acid, oxalic acid), azo, diazo, and hydrazines (e.g. dimethyl hydrazine, hydrazine, methyl hydrazine), isocyanates (e.g. methyl isocyanate), metals (alkali and alkaline, e.g. cesium, potassium, sodium), nitrides (e.g. potassium nitride, sodium nitride), peroxides and hydroperoxides (organic, e.g. acetyl peroxide, benzoyl peroxide, butyl peroxide, methyl ethyl ketone peroxide), epoxides (e.g. butyl glycidyl ether), oxidizing agents (strong, e.g. bromine, hydrogen peroxide, nitrogen dioxide, potassium nitrate), reducing agents (strong, e.g. aluminum carbide, chlorosilane, hydrogen phosphide, lithium hydride), water reactive substances (e.g. acetic anhydride, alkyl aluminum chloride, calcium carbide, ethyl dichlorosilane).

Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:

CAS# 64-17-5: KQ6300000
CAS# 67-56-1: PC1400000
CAS# 67-63-0: NT8050000
CAS# 67-64-1: AL3150000
CAS# 71-43-2: CY1400000
CAS# 75-07-0: AB1925000
CAS# 108-10-1: SA9275000
CAS# 108-88-3: XS5250000
CAS# 141-78-6: AH5425000
CAS# 7732-18-5: ZC0110000
CAS# 64742-89-8 unlisted.
CAS# 308082-09-9 unlisted.

LD50/LC50:

CAS# 64-17-5: Draize test, rabbit, eye: 500 mg Severe; Draize test rabbit, eye: 500 mg/24H Mild; Draize test, rabbit, skin: 20 mg/24H Moderate; Inhalation, mouse: LC50 = 39 gm/m³/4H; Inhalation, rat: LC50 = 20000 ppm/10H; Oral, mouse: LD50 = 3450 mg/kg; Oral, rabbit LD50 = 6300 mg/kg; Oral, rat: LD50 = 7060 mg/kg.
CAS# 67-56-1: Draize test, rabbit, eye: 40 mg Moderate; Draize test, rabbit, eye: 100 mg/24H Moderate; Draize test, rabbit, skin: 20 mg/24H Moderate; Inhalation, rat: LC50 = 64000 ppm/4H; Oral, mouse LD50 = 7300 mg/kg; Oral, rabbit: LD50 = 14200 mg/kg; Oral, rat: LD50 = 5628 mg/kg; Skin, rabbit: LD50 = 15800 mg/kg.
CAS# 67-63-0: Draize test, rabbit, eye: 100 mg Severe; Draize test

rabbit, eye: 10 mg Moderate; Draize test, rabbit, eye: 100 mg/24H Moderate; Draize test, rabbit, skin: 500 mg Mild; Inhalation, rat: LC50 = 16000 ppm/8H; Oral, mouse: LD50 = 3600 mg/kg; Oral, rabbit: LD50 = 6410 mg/kg; Oral, rat: LD50 = 5045 mg/kg; Skin, rabbit: LD50 = 12800 mg/kg.

CAS# 67-64-1: Dermal, guinea pig: LD50 = >9400 uL/kg; Draize test, rabbit, eye: 20 mg Severe; Draize test, rabbit, eye: 20 mg/24H Moderate; Draize test, rabbit, skin: 500 mg/24H Mild; Inhalation, mouse: LC50 = 44 gm/m³/4H; Inhalation, rat: LC50 = 50100 mg/m³/8H; Oral, mouse: LD50 = 3 gm/kg; Oral, rabbit: LD50 = 5340 mg/kg; Oral rat: LD50 = 5800 mg/kg.

CAS# 71-43-2: Dermal, guinea pig: LD50 = >9400 uL/kg; Draize test, rabbit, eye: 88 mg Moderate; Draize test, rabbit, eye: 2 mg/24H Severe; Draize test, rabbit, skin: 20 mg/24H Moderate; Inhalation, mouse: LC50 = 9980 ppm; Inhalation, rat: LC50 = 10000 ppm/7H; Oral mouse: LD50 = 4700 mg/kg; Oral, rat: LD50 = 930 mg/kg; Skin,

rabbit:

LD50 = >9400 uL/kg.

CAS# 75-07-0: Draize test, rabbit, eye: 40 mg Severe; Inhalation, mouse: LC50 = 23 gm/m³/4H; Inhalation, rat: LC50 = 13300 ppm/4H; Oral, mouse: LD50 = 900 mg/kg; Oral, rat: LD50 = 661 mg/kg; Skin, rabbit: LD50 = 3540 mg/kg.

CAS# 108-10-1: Draize test, rabbit, eye: 40 mg Severe; Draize test rabbit, eye: 100 uL/24H Moderate; Draize test, rabbit, skin: 500 mg/24H Mild; Inhalation, mouse: LC50 = 23300 mg/m³; Inhalation,

rat:

LC50 = 100 gm/m³; Oral, mouse: LD50 = 1900 mg/kg; Oral, rat: LD50 2080 mg/kg.

CAS# 108-88-3: Draize test, rabbit, eye: 870 ug Mild; Draize test, rabbit, eye: 2 mg/24H Severe; Draize test, rabbit, skin: 435 mg

Mild;

Draize test, rabbit, skin: 500 mg Moderate; Draize test, rabbit, skin: 20 mg/24H Moderate; Inhalation, mouse: LC50 = 400 ppm/24H; Inhalation, rat: LC50 = 49 gm/m³/4H; Oral, rat: LD50 = 636 mg/kg; Skin, rabbit: LD50 = 14100 uL/kg.

CAS# 141-78-6: Inhalation, mouse: LC50 = 45 gm/m³/2H; Inhalation, rat: LC50 = 200 gm/m³; Oral, mouse: LD50 = 4100 mg/kg; Oral,

rabbit:

LD50 = 4935 mg/kg; Oral, rat: LD50 = 5620 mg/kg; Skin, rabbit: LD50

=

>20 mL/kg.

CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg.

CAS# 64742-89-8.

CAS# 308082-09-9.

Carcinogenicity:

Ethyl Alcohol -

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Methyl alcohol -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Isopropyl alcohol -

IARC: Group 3 carcinogen

Acetone -

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Benzene -

ACGIH: A1 - Confirmed Human Carcinogen

California: carcinogen; initial date 2/27/87

NIOSH: occupational carcinogen

NTP: Known carcinogen

OSHA: Select carcinogen

IARC: Group 1 carcinogen

Acetaldehyde -

ACGIH: A3 - Animal Carcinogen

California: carcinogen; initial date 4/1/88

NIOSH: occupational carcinogen

NTP: Suspect carcinogen

OSHA: Possible Select carcinogen

IARC: Group 2B carcinogen

Methyl isobutyl ketone -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Toluene -

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Group 3 carcinogen

Ethyl acetate -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Water -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Solvent naphtha (petroleum), light aliphatic -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Gasoline, aviation -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology:

No data available.

Teratogenicity:

No data available.

Reproductive Effects:

Prenatal exposure to ethanol is associated with a distinct pattern

of

congenital malformations that have been collectively termed the

fetal

alcohol syndrome. Among the characteristics of this syndrome are intrauterine and postnatal growth deficiency, a distinctive pattern of physical malformation, and behavioral/cognitive impairment such as fine motor dysfunction and mental retardation. Not all affected children have all of the features of the syndrome. This syndrome

has

been associated with alcoholic women who drank heavily and

chronically during pregnancy
Neurotoxicity:
No data available.
Mutagenicity:
No data available.
Other Studies:
No data available.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity:
250 ppm/6hr/goldfish/lethal/fresh water

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: CAS# 67-56-1: waste number U154;
(Ignitable waste). CAS# 67-64-1: waste number U002;
(Ignitable waste). CAS# 71-43-2: waste number U019;
(Ignitable waste, Toxic waste). CAS# 75-07-0: waste

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT

Shipping Name: ETHANOL SOLUTIONS
Hazard Class: 3
UN Number: UN1170
Packing Group: II

Canadian TDG

Shipping Name: ALCOHOLS TOXIC NOS (ETHANOL,METHANOL MIXTURE)
Hazard Class: 3(6.1)
UN Number: UN1986

Other Information: FP 18C

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL

TSCA

CAS# 64-17-5 is listed on the TSCA inventory.
CAS# 67-56-1 is listed on the TSCA inventory.
CAS# 67-63-0 is listed on the TSCA inventory.
CAS# 67-64-1 is listed on the TSCA inventory.

CAS# 71-43-2 is listed on the TSCA inventory.
CAS# 75-07-0 is listed on the TSCA inventory.
CAS# 108-10-1 is listed on the TSCA inventory.
CAS# 108-88-3 is listed on the TSCA inventory.
CAS# 141-78-6 is listed on the TSCA inventory.
CAS# 7732-18-5 is listed on the TSCA inventory.
CAS# 64742-89-8 is listed on the TSCA inventory.
CAS# 308082-09-9 is not listed on the TSCA inventory.
It is for research and development use only.

Health & Safety Reporting List

CAS# 67-63-0: Effective Date: December 15, 1986; Sunset Date:
December 15, 1996

CAS# 108-10-1: Effective Date: October 4, 1982; Sunset Date:
October 4, 1992

CAS# 108-88-3: Effective Date: October 4, 1982; Sunset Date:
October 4, 1992

Chemical Test Rules

CAS# 67-63-0: Testing required by: manufacturers; importers;
processor

Section 12b

CAS# 67-63-0: 4/12b
CAS# 67-64-1: 4/12b
CAS# 108-10-1: 4/12b
CAS# 141-78-6: 4/12b

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

Section 302 (RQ)

CAS# 67-56-1: final RQ = 5000 pounds (2270 kg)
CAS# 67-64-1: final RQ = 5000 pounds (2270 kg)
CAS# 71-43-2: final RQ = 10 pounds (4.54 kg); receives an
adjustable R

CAS# 75-07-0: final RQ = 1000 pounds (454 kg)
CAS# 108-10-1: final RQ = 5000 pounds (2270 kg)
CAS# 108-88-3: final RQ = 1000 pounds (454 kg)
CAS# 141-78-6: final RQ = 5000 pounds (2270 kg)

Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 64-17-5: acute, chronic, flammable.
CAS # 67-56-1: acute, flammable.
CAS # 67-63-0: acute, chronic, flammable.
CAS # 67-64-1: acute, chronic, flammable, sudden release of
pressure.
CAS # 71-43-2: acute, chronic, flammable.

CAS # 75-07-0: acute, chronic, flammable, reactive.
CAS # 108-10-1: acute, chronic, flammable, reactive.
CAS # 108-88-3: acute, flammable.
CAS # 141-78-6: flammable.

Section 313

This material contains Methyl alcohol (CAS# 67-56-1, 3.6%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

This material contains Isopropyl alcohol (CAS# 67-63-0, 25%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

This chemical is not at a high enough concentration to be reportable

under Section 313.

This material contains Acetaldehyde (CAS# 75-07-0, 10%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

This material contains Methyl isobutyl ketone (CAS# 108-10-1, 1.9%), which is subject to the reporting requirements of Section 313

of SARA Title III and 40 CFR Part 372.

This chemical is not at a high enough concentration to be reportable

under Section 313.

Clean Air Act:

CAS# 67-56-1 is listed as a hazardous air pollutant (HAP).
CAS# 71-43-2 is listed as a hazardous air pollutant (HAP).
CAS# 75-07-0 is listed as a hazardous air pollutant (HAP).
CAS# 108-10-1 is listed as a hazardous air pollutant (HAP).
CAS# 108-88-3 is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depleters.
This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 71-43-2 is listed as a Hazardous Substance under the CWA.
CAS# 75-07-0 is listed as a Hazardous Substance under the CWA.
CAS# 108-88-3 is listed as a Hazardous Substance under the CWA.
CAS# 71-43-2 is listed as a Priority Pollutant under the Clean

Water Act.

CAS# 108-88-3 is listed as a Priority Pollutant under the Clean

Water Act.
CAS# 71-43-2 is listed as a Toxic Pollutant under the Clean Water Act.

CAS# 108-88-3 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

CAS# 75-07-0 is considered highly hazardous by OSHA.

STATE

Ethyl Alcohol can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Methyl alcohol can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Isopropyl alcohol can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Acetone can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Benzene can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Acetaldehyde can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Methyl isobutyl ketone can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Toluene can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Ethyl acetate can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Water is not present on state lists from CA, PA, MN, MA, FL, or NJ.

Solvent naphtha (petroleum), light aliphatic is not present on state lists from CA, PA, MN, MA, FL, or NJ.

Gasoline, aviation is not present on state lists from CA, PA, MN, MA, FL, or NJ.

WARNING: This product contains Benzene, a chemical known to the state of California to cause cancer.

WARNING: This product contains Benzene, a chemical known to the state of California to cause birth defects or other reproductive harm.

WARNING: This product contains Acetaldehyde, a chemical known to the state of California to cause cancer.

WARNING: This product contains Ethyl Alcohol, a chemical known to the state of California to cause birth defects or other reproductive harm.

California No Significant Risk Level:

CAS# 71-43-2: no significant risk level = 7 ug/day

CAS# 75-07-0: no significant risk level = 90 ug/day (inhalation)

CAS# 108-88-3: NOEL = 7000 ug/day

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: F

Risk Phrases:

R 11 Highly flammable.

Safety Phrases:

S 2 Keep out of reach of children.

S 7 Keep container tightly closed.

S 16 Keep away from sources of ignition - No smoking.

WGK (Water Danger/Protection)

CAS# 64-17-5: 0

CAS# 67-56-1: 1

CAS# 67-63-0: 1

CAS# 67-64-1: 0

CAS# 71-43-2: 3

CAS# 75-07-0: 1

CAS# 108-10-1: 1

CAS# 108-88-3: 2

CAS# 141-78-6: 1

CAS# 7732-18-5: No information available.

CAS# 64742-89-8: No information available.

CAS# 308082-09-9: No information available.

United Kingdom Occupational Exposure Limits

CAS# 64-17-5: OES-United Kingdom, TWA 1000 ppm TWA; 1920 mg/m3 TWA

CAS# 67-56-1: OES-United Kingdom, TWA 200 ppm TWA; 266 mg/m3 TWA

CAS# 67-56-1: OES-United Kingdom, STEL 250 ppm STEL; 333 mg/m3 STEL

CAS# 67-63-0: OES-United Kingdom, TWA 400 ppm TWA; 999 mg/m3 TWA

CAS# 67-63-0: OES-United Kingdom, STEL 500 ppm STEL; 1250 mg/m3

STEL

CAS# 67-64-1: OES-United Kingdom, TWA 750 ppm TWA; 1810 mg/m3 TWA

CAS# 67-64-1: OES-United Kingdom, STEL 1500 ppm STEL; 3620 mg/m3

STEL

Canada

CAS# 64-17-5 is listed on Canada's DSL List.

CAS# 67-56-1 is listed on Canada's DSL List.

CAS# 67-63-0 is listed on Canada's DSL List.

CAS# 67-64-1 is listed on Canada's DSL List.

CAS# 71-43-2 is listed on Canada's DSL List.

CAS# 75-07-0 is listed on Canada's DSL List.

CAS# 108-10-1 is listed on Canada's DSL List.

CAS# 108-88-3 is listed on Canada's DSL List.

CAS# 141-78-6 is listed on Canada's DSL List.

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 64742-89-8 is listed on Canada's DSL List.

This product has a WHMIS classification of B2, D1A, D2B.

CAS# 64-17-5 is listed on Canada's Ingredient Disclosure List.

CAS# 67-56-1 is listed on Canada's Ingredient Disclosure List.

CAS# 67-63-0 is listed on Canada's Ingredient Disclosure List.
CAS# 67-64-1 is listed on Canada's Ingredient Disclosure List.
CAS# 71-43-2 is listed on Canada's Ingredient Disclosure List.
CAS# 75-07-0 is listed on Canada's Ingredient Disclosure List.
CAS# 108-10-1 is listed on Canada's Ingredient Disclosure List.
CAS# 108-88-3 is listed on Canada's Ingredient Disclosure List.
CAS# 141-78-6 is listed on Canada's Ingredient Disclosure List.
CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure

List.

CAS# 64742-89-8 is not listed on Canada's Ingredient Disclosure

List.

CAS# 308082-09-9 is not listed on Canada's Ingredient Disclosure

List.

Exposure Limits

CAS# 64-17-5: OEL-AUSTRALIA:TWA 1000 ppm (1900 mg/m3)
OEL-BELGIUM:TWA 1000 ppm (1880 mg/m3)
OEL-CZECHOSLOVAKIA:TWA 1000 mg/m3;STEL 5000 mg/m3
OEL-DENMARK:TWA 1000 ppm (1900 mg/m3)
OEL-FINLAND:TWA 1000 ppm (1900 mg/m3);STEL 1250 ppm (2400 mg/m3)
OEL-FRANCE:TWA 1000 ppm (1900 mg/m3);STEL 5000 pp
OEL-GERMANY:TWA 1000 ppm (1900 mg/m3)
OEL-HUNGARY:TWA 1000 mg/m3;STEL 3000 mg/m3
OEL-THE NETHERLANDS:TWA 1000 ppm (1900 mg/m3)
OEL-THE PHILIPPINES:TWA 1000 ppm (1900 mg/m3)
OEL-POLAND:TWA 1000 mg/m3
OEL-RUSSIA:STEL 1000 mg/m3
OEL-SWEDEN:TWA 1000 ppm (1900 mg/m3)
OEL-SWITZERLAND:TWA 1000 ppm (1900 mg/m3)
OEL-THAILAND:TWA 1000 ppm (1900 mg/m3)
OEL-TURKEY:TWA 1000 ppm (1900 mg/m3)
OEL-UNITED KINGDOM:TWA 1000 ppm (1900 mg/m3) JAN9
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV
CAS# 67-56-1: OEL-ARAB Republic of Egypt:TWA 200 ppm (260

mg/m3);Skin

CAS# 67-63-0: OEL-AUSTRALIA:TWA 400 ppm (980 mg/m3);STEL 500 ppm

(1225

mg/m3)

OEL-BELGIUM:TWA 400 ppm (985 mg/m3);STEL 500 ppm (1230 mg/m3)
OEL-DENMARK:TWA 200 ppm (490 mg/m3);Skin
OEL-FRANCE:STEL 400 ppm (980 mg/m3)
OEL-GERMANY:TWA 400 ppm (980 mg/m3)
OEL-JAPAN:STEL 400 ppm (980 mg/m3)
OEL-THE NETHERLANDS:TWA 400 ppm (980 mg/m3);Skin
OEL-THE PHILIPPINES:TWA 400 ppm (980 mg/m3)
OEL-RUSSIA:STEL 400 ppm (10 mg/m3)
OEL-SWEDEN:TWA 150 ppm (350 mg/m3);STEL 250 ppm (600 mg/m3)
OEL-SWITZERLAND:TWA 400 ppm (980 mg/m3);STEL 800 ppm

OEL-TURKEY:TWA 200 ppm (500 mg/m3)
OEL-UNITED KINGDOM:TWA 400 ppm (980 mg/m3);STEL 500 ppm;Skin
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV
CAS# 67-64-1: OEL-AUSTRALIA:TWA 500 ppm (1185 mg/m3);STEL 1000 ppm
OEL-AUSTRIA:TWA 750 ppm (1780 mg/m3)
OEL-BELGIUM:TWA 750 ppm (1780 mg/m3);STEL 1000 pp
OEL-CZECHOSLOVAKIA:TWA 800 mg/m3;STEL 4000 mg/m3
OEL-DENMARK:TWA 250 ppm (600 mg/m3)
OEL-FINLAND:TWA 500 ppm (1200 mg/m3);STEL 625 ppm (1500 mg/m3)
OEL-FRANCE:TWA 750 ppm (1800 mg/m3)
OEL-GERMANY:TWA 1000 ppm (2400 mg/m3)
OEL-HUNGARY:TWA 600 mg/m3;STEL 1200 mg/m3
OEL-INDIA:TWA 750 ppm (1780 mg/m3);STEL 1000 ppm (2375 mg/m3)
OEL-JAPAN:TWA 200 ppm (470 mg/m3)
OEL-THE NETHERLANDS:TWA 750 ppm (1780 mg/m3) JAN9
OEL-THE PHILIPPINES:TWA 1000 ppm (2400 mg/m3)
OEL-POLAND:TWA 200 mg/m3
OEL-RUSSIA:TWA 200 ppm;STEL 200 mg/m3
OEL-SWEDEN:TWA 250 ppm (600 mg/m3);STEL 500 ppm (1200 mg/m3)
OEL-SWITZERLAND:TWA 750 ppm (1780 mg/m3)
OEL-TURKEY:TWA 1000 ppm (2400 mg/m3)
OEL-UNITED KINGDOM:TWA 750 ppm (1810 mg/m3);STEL 1250 ppm
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

CAS# 71-43-2: OEL-AUSTRALIA:TWA 5 ppm (16 mg/m3);Carcinogen
OEL-BELGIUM:TWA 10 ppm (32 mg/m3);Carcinogen JAN9
OEL-CZECHOSLOVAKIA:TWA 10 mg/m3;STEL 20 mg/m3
OEL-DENMARK:TWA 5 ppm (16 mg/m3);Skin;Carcinogen
OEL-FINLAND:TWA 5 ppm (15 mg/m3);STEL 10 ppm (30 mg/m3);Skin;CAR
OEL-FRANCE:TWA 5 ppm (16 mg/m3);Carcinogen
OEL-GERMANY;Skin;Carcinogen
OEL-HUNGARY:STEL 5 mg/m3;Skin;Carcinogen
OEL-INDIA:TWA 10 ppm (30 mg/m3);Carcinogen
OEL-JAPAN:TWA 10 ppm (32 mg/m3);STEL 25 ppm (80 mg/m3);CAR
OEL-THE NETHERLANDS:TWA 10 ppm (30 mg/m3);Skin
OEL-THE PHILIPPINES:TWA 25 ppm (80 mg/m3);Skin
OEL-POLAND:TWA 30 mg/m3;Skin
OEL-RUSSIA:TWA 10 ppm (5 mg/m3);STEL 25 ppm (15 mg/m3);Skin;CAR
OEL-SWEDEN:TWA 1 ppm (3 mg/m3);STEL 5 ppm (16 mg/m3);Skin;CAR
OEL-SWITZERLAND:TWA 5 ppm (16 mg/m3);Skin;Carcinogen
OEL-THAILAND:TWA 10 ppm (30 mg/m3);STEL 25 ppm (7 mg/m3)
OEL-TURKEY:TWA 20 ppm (64 mg/m3);Skin
OEL-UNITED KINGDOM:TWA 10 ppm (30 mg/m3)
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV
CAS# 75-07-0: OEL-ARAB Republic of Egypt:TWA 100 ppm (180 mg/m3)

OEL-AUSTRALIA:TWA 100 ppm (180 mg/m3);STEL 150 pp (270 mg/m3)
OEL-BELGIUM:TWA 100 ppm (180 mg/m3);STEL 150 ppm (270 mg/m3)
OEL-CZECHOSLOVAKIA:TWA 200 mg/m3;STEL 400 mg/m3;CAR
OEL-DENMARK:TWA 25 ppm (45 mg/m3)
OEL-FINLAND:TWA 50 ppm (90 mg/m3);STEL 75 ppm (13 mg/m3)
OEL-FRANCE:TWA 100 ppm (180 mg/m3)
OEL-GERMANY:TWA 50 ppm (90 mg/m3);Carcinogen JAN9
OEL-HUNGARY:STEL 25 mg/m3;Carcinogen
OEL-INDIA:TWA 100 ppm (180 mg/m3);STEL 150 ppm (270 mg/m3)
OEL-THE NETHERLANDS:TWA 100 ppm (180 mg/m3)
OEL-THE PHILIPPINES:TWA 200 ppm (360 mg/m3)
OEL-POLAND:TWA 5 mg/m3
OEL-RUSSIA:STEL 5 mg/m3;Skin
OEL-SWEDEN:TWA 25 ppm (45 mg/m3);STEL 50 ppm (90 mg/m3)
OEL-SWITZERLAND:TWA 50 ppm (90 mg/m3);STEL 100 pp (180 mg/m3)
OEL-TURKEY:TWA 200 ppm (360 mg/m3)
OEL-UNITED KINGDOM:TWA 100 ppm (180 mg/m3);STEL 150 ppm
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV
CAS# 108-10-1: Not available.
CAS# 108-88-3: OEL-AUSTRALIA:TWA 100 ppm (375 mg/m3);STEL 150 ppm
(560 mg/m3)
OEL-BELGIUM:TWA 100 ppm (377 mg/m3);STEL 150 ppm (565 mg/m3)
OEL-CZECHOSLOVAKIA:TWA 200 mg/m3;STEL 1000 mg/m3
OEL-DENMARK:TWA 50 ppm (190 mg/m3);Skin
OEL-FINLAND:TWA 100 ppm (375 mg/m3);STEL 150 ppm;Skin
OEL-FRANCE:TWA 100 ppm (375 mg/m3);STEL 150 ppm (560 mg/m3)
OEL-GERMANY:TWA 100 ppm (380 mg/m3)
OEL-HUNGARY:TWA 100 mg/m3;STEL 300 mg/m3;Skin
OEL-JAPAN:TWA 100 ppm (380 mg/m3)
OEL-THE NETHERLANDS:TWA 100 ppm (375 mg/m3);Skin
OEL-THE PHILIPPINES:TWA 100 ppm (375 mg/m3)
OEL-POLAND:TWA 100 mg/m3
OEL-RUSSIA:TWA 100 ppm;STEL 50 mg/m3
OEL-SWEDEN:TWA 50 ppm (200 mg/m3);STEL 100 ppm (400 mg/m3);Skin
OEL-SWITZERLAND:TWA 100 ppm (380 mg/m3);STEL 500 ppm
OEL-THAILAND:TWA 200 ppm;STEL 300 ppm
OEL-TURKEY:TWA 200 ppm (750 mg/m3)
OEL-UNITED KINGDOM:TWA 100 ppm (375 mg/m3);STEL 150 ppm;Skin
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV
CAS# 141-78-6: OEL-AUSTRALIA:TWA 400 ppm (1400 mg/m3)
OEL-BELGIUM:TWA 400 ppm (1440 mg/m3)
OEL-CZECHOSLOVAKIA:TWA 400 mg/m3;STEL 2000 mg/m3
OEL-DENMARK:TWA 300 ppm (1100 mg/m3)
OEL-FINLAND:TWA 300 ppm (1100 mg/m3);STEL 500 ppm (1800 mg/m3)
OEL-FRANCE:TWA 400 ppm (1400 mg/m3)
OEL-GERMANY:TWA 400 ppm (1400 mg/m3)

OEL-HUNGARY:TWA 400 mg/m3;STEL 1200 mg/m3
OEL-JAPAN:TWA 400 ppm (1400 mg/m3)
OEL-THE NETHERLANDS:TWA 400 ppm (1400 mg/m3) JAN9
OEL-THE PHILIPPINES:TWA 400 ppm (1400 mg/m3) JAN9
OEL-POLAND:TWA 200 ppm
OEL-RUSSIA:TWA 400 ppm;STEL 200 mg/m3
OEL-SWEDEN:TWA 150 ppm (500 mg/m3);STEL 300 ppm (1100 mg/m3)
OEL-SWITZERLAND:TWA 400 ppm (1400 mg/m3);STEL 800 ppm
OEL-TURKEY:TWA 400 ppm (1400 mg/m3)
OEL-UNITED KINGDOM:TWA 400 ppm (1400 mg/m3)
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 10/12/1998 Revision #3 Date: 1/17/2003

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