**** MATERIAL SAFETY DATA SHEET ****

Luminol
30356

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

MSDS Name: Luminol
Catalog Numbers:
S76793
Synonyms:
Luminol; 5-Amino-2,3-Dihydro-1,4-Phthalazinedione.
Company Identification: Fisher Scientific
1 Reagent Lane
Fairlawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

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

CAS#	Chemical Name	%	EINECS#
521-31-3	1,4-phthalazinedione, 5-amino-2,3-dihydro-	100%	208-309-4

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

EMERGENCY OVERVIEW

Appearance: yellow to green.
Caution! The toxicological properties of this material have not been fully investigated. May cause eye and skin irritation. May cause respiratory and digestive tract irritation.
Target Organs: No data found.

Potential Health Effects

Eye:
May cause eye irritation.

Skin:
May cause skin irritation.

Ingestion:
May cause gastrointestinal irritation with nausea, vomiting and diarrhea. The toxicological properties of this substance have not been fully investigated.

Inhalation:
May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

Chronic:
No information found.

**** 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.

Skin:
Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion:
Do NOT induce vomiting. 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.

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

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. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media:
In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

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

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

Spills/Leaks:

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions.

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

Handling:
Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

Storage:
Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances.

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

Engineering Controls:
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
1,4-phthalazinedione, 5-amino-2,3-dihydro-	none listed	none listed	none listed

OSHA Vacated PELs:
1,4-phthalazinedione, 5-amino-2,3-dihydro-:
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:	Solid
Appearance:	yellow to green
Odor:	None reported.
pH:	Not available.
Vapor Pressure:	Not available.
Vapor Density:	Not available.
Evaporation Rate:	Not available.
Viscosity:	Not available.
Boiling Point:	Not available.
Freezing/Melting Point:	325 deg C
Autoignition Temperature:	Not applicable.
Flash Point:	Not applicable.
NFPA Rating:	(est.) Health: 1; Flammability: 0; Reactivity: 0
Explosion Limits, Lower:	Not available.
Upper:	Not available.
Decomposition Temperature:	Not available.
Solubility:	Soluble in water.
Specific Gravity/Density:	Not available.
Molecular Formula:	C8H7N3O2
Molecular Weight:	177.0679

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

Chemical Stability:
Stable under normal temperatures and pressures.

Conditions to Avoid:
Incompatible materials, dust generation, excess heat.

Incompatibilities with Other Materials:
Strong oxidizing agents, strong acids, strong bases and strong reducing agents.

Hazardous Decomposition Products:

Nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization: Has not been reported.

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

RTECS#:
CAS# 521-31-3: TH8890060
LD50/LC50:
Not available.
Carcinogenicity:
1,4-phthalazinedione, 5-amino-2,3-dihydro- -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology:
No information found.
Teratogenicity:
No information found.
Reproductive Effects:
No information found.
Neurotoxicity:
No information found.
Mutagenicity:
No information found.
Other Studies:
See actual entry in RTECS for complete information.

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

**** 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: None listed.

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

US DOT
No information available
Canadian TDG
No information available.

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

US FEDERAL
TSCA
CAS# 521-31-3 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
SARA
Section 302 (RQ)
None of the chemicals in this material have an RQ.
Section 302 (TPQ)
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 521-31-3: acute.
Section 313
No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
1,4-phthalazinedione, 5-amino-2,3-dihydro- is not present on state lists from CA, PA, MN, MA, FL, or NJ.
California No Significant Risk Level:
None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: Not available.
Risk Phrases:
Safety Phrases:
WGK (Water Danger/Protection)
CAS# 521-31-3: 1
United Kingdom Occupational Exposure Limits

Canada
CAS# 521-31-3 is listed on Canada's DSL/NDSL List.
This product has a WHMIS classification of D2A.
CAS# 521-31-3 is not listed on Canada's Ingredient Disclosure List.
Exposure Limits

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

MSDS Creation Date: 9/02/1997 Revision #5 Date: 8/02/2000

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

**** MATERIAL SAFETY DATA SHEET ****

Ethyl Alcohol, Denatured (S73985)
45409

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

MSDS Name: Ethyl Alcohol, Denatured (S73985)
Catalog Numbers:
S73985-1, S73985-2, S73985-3, S73985-4, S739851, S739852, S739853, S739854
Synonyms:
Denatured Alcohol, Ethanol, Grain Alcohol
Company Identification: Fisher Scientific
1 Reagent Lane
Fairlawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

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

CAS#	Chemical Name	%	EINECS#
64-17-5	Ethyl alcohol	83.1-89.	200-578-6
67-56-1	Methyl alcohol	3.4-3.5	200-659-6
141-78-6	Ethyl acetate	4.9-5.0	205-500-4

Hazard Symbols: F
Risk Phrases: 11

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

EMERGENCY OVERVIEW
Appearance: colourless. Flash Point: 47 deg F.
Danger! Flammable liquid and vapor. Causes respiratory tract irritation. May cause digestive tract irritation. May cause central nervous system depression. May be absorbed through the skin. May cause blindness if swallowed. Causes severe eye irritation. May be fatal or cause blindness if swallowed. This substance has caused adverse reproductive and fetal effects in humans. Causes moderate skin irritation. May cause liver, kidney and heart damage.
Target Organs: Blood, kidneys, heart, central nervous system, liver, eyes.

Potential Health Effects
Eye:
Causes severe eye irritation. May cause painful sensitization to light. May cause chemical conjunctivitis and corneal damage.
Skin:
Causes moderate skin irritation. May be absorbed through the skin. May cause cyanosis of the extremities.
Ingestion:
May be fatal or cause blindness if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systemic toxicity with acidosis. 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. Causes respiratory tract irritation. May cause narcotic effects in high concentration. Vapors may cause dizziness or suffocation.
Chronic:
Prolonged or repeated skin contact may cause defatting and dermatitis. May cause reproductive and fetal effects. Laboratory experiments have resulted in mutagenic effects. Animal studies have reported the development of tumors. Prolonged exposure may cause liver, kidney, and heart damage.

**** 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.
Skin:
Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
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 immediately. Induce vomiting by giving one teaspoon of Syrup of

Ipecac.
Inhalation:
Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician:
Treat symptomatically and supportively. Persons with skin or eye disorders or liver, kidney, chronic respiratory diseases, or central and peripheral nervous sytem diseases may be at increased risk from exposure to this substance. Activated charcoal does not reduce ethanol absorption.
Antidote:
Ethanol may inhibit methanol metabolism.

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

General Information:
Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors can travel to a source of ignition and flash back. May burn with invisible flame. Will burn if involved in a fire. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May be ignited by heat, sparks, and flame. Vapors may form an explosive mixture with air.
Extinguishing Media:
For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water. For small fires, use carbon dioxide, dry chemical, dry sand, or alcohol-resistant foam. Cool containers with flooding quantities of water until well after fire is out.

**** 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, dry sand or earth), then place into a chemical waste container. Do not use combustible materials such as saw dust. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces.

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

Handling:
Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. 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. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage:
Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Do not store near perchlorates, peroxides, chromic acid or nitric acid.

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

Engineering Controls:
Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ethyl alcohol	1000 ppm	1000 ppm TWA; 1900 mg/m3 TWA 3300 ppm IDLH (10 percent lower explosive limit)	1000 ppm TWA; 1900 mg/m3 TWA
Methyl alcohol	200 ppm; 250 ppm	200 ppm TWA; 260	200 ppm TWA; 260

	STEL; skin - potential for cutaneous absorption	mg/m3 TWA 6000 ppm IDLH	mg/m3 TWA
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

OSHA Vacated PELs:
Ethyl alcohol:
1000 ppm TWA; 1900 mg/m3 TWA
Methyl alcohol:
200 ppm TWA; 260 mg/m3 TWA
Ethyl acetate:
400 ppm TWA; 1400 mg/m3 TWA

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:
A respiratory protection program that meets OSHA's 29 CFR :1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

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

Physical State:	Liquid
Appearance:	colourless
Odor:	alcohol-like
pH:	Not available.
Vapor Pressure:	42 mm Hg
Vapor Density:	1.6
Evaporation Rate:	4.1
Viscosity:	Not available.
Boiling Point:	73-79 deg C
Freezing/Melting Point:	-80 deg C
Autoignition Temperature:	685 deg F (362.78 deg C)
Flash Point:	47 deg F (8.33 deg C)
NFPA Rating:	Not published.
Explosion Limits, Lower:	3 vol %
Upper:	19 vol %
Decomposition Temperature:	Not available.
Solubility:	Soluble in water.
Specific Gravity/Density:	0.795
Molecular Formula:	CH3CH2OH
Molecular Weight:	46.0414

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

Chemical Stability:
Stable under normal temperatures and pressures.
Conditions to Avoid:
High temperatures, high temperatures, incompatible materials, ignition sources, excess heat, strong oxidants, oxidizers.
Incompatibilities with Other Materials:
Strong oxidizing agents, peroxides, acids, acid chlorides, acid anhydrides, alkali metals, ammonia, permanganic acid, ruthenium (VIII) oxide, bromine pentafluoride, nitrosyl perchlorate, chromyl chloride, uranium hexafluoride, iodine heptafluoride, uranyl perchlorate, acetyl bromide, silver nitrate, disulfuryl difluoride, magnesium perchlorate, platinum, potassium-tert-butoxide, silver oxide, hydrazine, tetrachlorosilane + water, acetyl chloride, calcium hypochlorite, mercuric nitrate, perchloric acid, potassium dioxide, sodium, chlorosulfonic acid, 2-chloromethyl furan, oleum, lithium aluminum hydride.
Hazardous Decomposition Products:
Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization: Will not occur.

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

RTECS#:
CAS# 64-17-5: KQ6300000

CAS# 67-56-1: PC1400000
CAS# 141-78-6: AH5425000
LD50/LC50:
CAS# 64-17-5: 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: 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# 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 gm/kg.
Carcinogenicity:
Ethyl alcohol -
ACGIH: A4 - Not Classifiable as a Human Carcinogen
Methyl alcohol -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Ethyl acetate -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology:
Ethanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Prenatal exposure to ethanol is associated with a distinct pattern of congenital malformations that have collecetively been termed the "fetal alcohol syndrome".
Teratogenicity:
CAS# 64-17-5: Oral, Human - woman: TDLo = 41 gm/kg (female 41 week(s) after conception) Effects on Newborn - Apgar score (human only) and Effects on Newborn - other neonatal measures or effects and Effects on Newborn - drug dependence.
Reproductive Effects:
CAS# 64-17-5: Intrauterine, Human - woman: TDLo = 200 mg/kg (female 5 day(s) pre-mating) Fertility - female fertility index (e.g. # females pregnant per # sperm positive females; # females pregnant per # females mated).
Neurotoxicity:
No information available.
Mutagenicity:
CAS# 64-17-5: DNA Inhibition: Human, Lymphocyte = 220 mmol/L.; Cytogenetic Analysis: Human, Lymphocyte = 1160 gm/L.; Cytogenetic Analysis: Human, Fibroblast = 12000 ppm.; Cytogenetic Analysis: Human, Leukocyte = 1 pph/72H (Continuous).; Sister Chromatid Exchange: Human, Lymphocyte = 500 ppm/72H (Continuous).
Other Studies:
Standard Draize Test(Skin, rabbit) = 20 mg/24H (Moderate) Standard Draize Test: Administration into the eye (rabbit) = 500 mg (Severe).

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

Ecotoxicity:
Fish: Rainbow trout: LC50 = 12900-15300 mg/L; 96 Hr; Flow-through @ 24-24.3&CFish: Rainbow trout: LC50 = 11200 mg/L; 24 Hr; Fingerling (Unspecified)Bacteria: Phytobacterium phosphoreum: EC50 = 34900 mg/L; 5-30 min; Microtox testCAS# 64-17-5: When spilled on land it is apt to volatilize, biodegrade, and leach into the ground water, but no data on the rates of these processes could be found. Its fate in ground water is unknown. When released into water it will volatilize and probably biodegrade. It would not be expected to adsorb to sediment or bioconcentrate in fish.

**** 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# 141-78-6: waste number U112; (Ignitable waste).

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

US DOT
Shipping Name: ETHANOL
Hazard Class: 3
UN Number: UN1170
Packing Group: II
Canadian TDG
No information available.

**** 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# 141-78-6 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 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# 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 # 141-78-6: flammable.
Section 313
This material contains Methyl alcohol (CAS# 67-56-1, 3 4 3 5%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.
Clean Air Act:
CAS# 67-56-1 is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are 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.
Ethyl acetate can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
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:
None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: F
Risk Phrases:
R 11 Highly flammable.
Safety Phrases:
S 7 Keep container tightly closed.
S 9 Keep container in a well-ventilated place.
S 16 Keep away from sources of ignition - No smoking.
S 33 Take precautionary measures against static discharges.

WGK (Water Danger/Protection)
CAS# 64-17-5: 0
CAS# 67-56-1: 1
CAS# 141-78-6: 1

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# 141-78-6: OES-United Kingdom, TWA 400 ppm TWA; 1460 mg/m3 TWA

Canada
CAS# 64-17-5 is listed on Canada's DSL/NDSL List.
CAS# 67-56-1 is listed on Canada's DSL/NDSL List.
CAS# 141-78-6 is listed on Canada's DSL/NDSL List.
This product has a WHMIS classification of B2, D2A.
CAS# 64-17-5 is not listed on Canada's Ingredient Disclosure List.
CAS# 67-56-1 is not listed on Canada's Ingredient Disclosure List.
CAS# 141-78-6 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# 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 ****

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