

MSDS**Material Safety Data Sheet**

From: Vinquiry, Inc.
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VINQUIRY

24 hour Emergency Telephone:
Chemtrec: 1-800-424-9300

Outside U.S. and Canada Chemtrec: 202-483-7616

NOTE: CHEMTREC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All Non-emergency questions should be directed to Customer Service (1-707-838-6312) for assistance.

SO2 Indicator

Contains: **Methyl Red, Methylene Blue and Reagent Alcohol**

Vinquiry Product Codes: 10-222-0000, 10-222-0060, 10-222-0118, 10-222-0237, 10-222-0473

MSDS Number: SI222 --- *Effective Date: 01/01/01*

METHYL RED SODIUM SALT

MSDS Number: MR197 --- *Effective Date: 01/01/01*

1. Product Identification

Synonyms: 2-((4-Dimethylamino)phenyl)azo) benzoic acid, sodium salt; C.I. Acid Red 2, sodium salt

CAS No.: 845-10-3

Molecular Weight: 291.29

Chemical Formula: C₁₅H₁₄N₃O₂Na

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Methyl Red Sodium Salt	845-10-3	90 - 100%	Yes

3. Hazards Identification

Emergency Overview

WARNING! TOXICOLOGICAL PROPERTIES UNKNOWN. MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

Potential Health Effects

Information on the human health effects from exposure to this substance is limited.

Inhalation:

No information found, but compound should be handled as a potential health hazard. May cause irritation to the respiratory tract. Symptoms may include coughing, sore throat, labored breathing, and chest pain.

Ingestion:

No information found, but compound should be handled as a potential health hazard. May cause irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.

Skin Contact:

No information found, but compound should be handled as a potential health hazard. May cause irritation with redness and pain. May be absorbed through the skin with possible systemic effects.

Eye Contact:

No information found, but compound should be handled as a potential health hazard. May cause irritation, redness and pain.

Chronic Exposure:

No information found.

Aggravation of Pre-existing Conditions:

No information found.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

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

5. Fire Fighting Measures

Fire:

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Water spray, dry chemical, alcohol foam, or carbon dioxide.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to the dust or mist is apparent, a half-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Other Control Measures:

There is insufficient data in the published literature to assign complete numerical SAFETY DATA* ratings and laboratory protective equipment for this product. Special precautions must be used in storage, use and handling. Protective equipment for laboratory bench use should be chosen using professional judgment based on the size and type of reaction or test to be conducted and the available ventilation, with overriding consideration to minimize contact with the chemical.

9. Physical and Chemical Properties

Appearance:

Dark red or violet crystals.

Odor:

Odorless.

Solubility:

Negligible (< 0.1%)

Specific Gravity:

No information found.

pH:

No information found.

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

No information found.

Melting Point:

No information found.

Vapor Density (Air=1):

Not applicable.

Vapor Pressure (mm Hg):

Not applicable.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Strong oxidizers.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

-----\Cancer Lists\-----

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Methyl Red Sodium Salt (845-10-3)	No	No	None

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
Ingredient                                     TSCA  EC   Japan  Australia
-----
Methyl Red Sodium Salt (845-10-3)           Yes  Yes  No     Yes
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-----\Chemical Inventory Status - Part 2\-----
Ingredient                                     Korea  DSL   NDSL  Phil.
-----
Methyl Red Sodium Salt (845-10-3)           Yes   Yes  No     Yes
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-----\Federal, State & International Regulations - Part 1\-----
Ingredient                                     -SARA 302-  -SARA 313-
RQ  TPQ  List  Chemical Catg.
-----
Methyl Red Sodium Salt (845-10-3)           No   No   No     No
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-----\Federal, State & International Regulations - Part 2\-----
Ingredient                                     -RCRA-  -TSCA-
CERCLA  261.33  8(d)
-----
Methyl Red Sodium Salt (845-10-3)           No     No     No
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Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: No Chronic: No Fire: No Pressure: No
Reactivity: No (Pure / Solid)

Australian Hazchem Code: No information found.

Poison Schedule: No information found.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 1 Flammability: 1 Reactivity: 0

Label Hazard Warning:

WARNING! TOXICOLOGICAL PROPERTIES UNKNOWN. MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

Label Precautions:

No SAFETY DATA Ratings have been developed for this product. Read and follow all warnings, precautions, instructions and other safety and handling information on the label and MSDS.

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, give large amounts of water to drink. Never give anything by mouth to an unconscious person. In all cases, get medical attention.

Product Use:

Laboratory Reagent.

Revision Information:

METHYLENE BLUE

MSDS Number: MB194--- *Effective Date: 01/01/01*

1. Product Identification

Synonyms: Basic Blue 9, trihydrate; Methylene blue trihydrate; 3,7-Bis(dimethylamino)phenazathionium chloride trihydrate

CAS No.: 61-73-4

Molecular Weight: 373.91

Chemical Formula: C₁₆H₁₈N₃S · 3H₂O

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Methylene Blue	61-73-4	100%	Yes

3. Hazards Identification

Emergency Overview

WARNING! HARMFUL IF SWALLOWED.

Health Rating: 1 - Slight

Flammability Rating: 0 - None

Reactivity Rating: 0 - None

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT

Storage Color Code: Orange (General Storage)

Potential Health Effects

This material is relatively nonhazardous in routine industrial situations.

Inhalation:

No adverse health effects expected from inhalation. May cause a short period of rapid or difficult breathing.

Ingestion:

A burning sensation of the mouth may be noted following ingestion of methylene blue. May cause nausea, vomiting, diarrhea, and gastritis. Large doses may cause abdominal and chest pain, headache, profuse sweating, mental confusion, painful micturation, and methemoglobinemia.

Skin Contact:

Not expected to be a health hazard from skin exposure. Methylene blue may color the skin a bluish color. May cause photosensitization.

Eye Contact:

No adverse effects expected. May cause mechanical irritation.

Chronic Exposure:

No information found.

Aggravation of Pre-existing Conditions:

No information found.

4. First Aid Measures

Inhalation:

Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

Skin Contact:

Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

5. Fire Fighting Measures

Fire:

Methylene blue does not burn. Not considered to be a fire hazard.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8.

Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Avoid dust formation and control ignition sources. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

In general, dilution ventilation is a satisfactory health hazard control for this substance. However, if conditions of use create discomfort to the worker, a local exhaust system should be considered.

Personal Respirators (NIOSH Approved):

Not expected to require personal respirator usage. For conditions of use where exposure to the dust or mist is apparent, a half-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Dark green crystals with bronze luster or crystalline powder.

Odor:

Odorless.

Solubility:

Soluble in water.

Specific Gravity:

No information found.

pH:

No information found.

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

Decomposes.

Melting Point:

100 - 110C (212 - 230F)

Vapor Density (Air=1):

13

Vapor Pressure (mm Hg):

Not applicable.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

May produce oxides of nitrogen, sulfur and carbon when heated to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Strong oxidizing agents, alkali, dichromates, alkali iodides, reducing agents.

Conditions to Avoid:

Heat, flame, ignition sources, dusting and incompatibles.

11. Toxicological Information

Methylene Blue: 1180 mg/kg LD50 oral rat. Investigated as a mutagen, reproductive effector.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		
	Known	Anticipated	IARC Category
Methylene Blue (61-73-4)	No	No	None

12. Ecological Information

Environmental Fate:

When released into the soil, this material is not expected to evaporate significantly. When released into water, this material is not expected to evaporate significantly. This material has an estimated bioconcentration factor (BCF) of less than 100. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition. When released into the air, this material may be removed from the atmosphere to a moderate extent by dry deposition.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
Methylene Blue (61-73-4)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----				
--Canada--				

Ingredient	Korea	DSL	NDSL	Phil.
Methylene Blue (61-73-4)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----
 -SARA 302- -----SARA 313-----

Ingredient	RQ	TPQ	List	Chemical Catg.
Methylene Blue (61-73-4)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----
 -RCRA- -TSCA-

Ingredient	CERCLA	261.33	8(d)
Methylene Blue (61-73-4)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
 SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
 Reactivity: No (Pure / Solid)

Australian Hazchem Code: No information found.

Poison Schedule: No information found.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: **Health: 2 Flammability: 0 Reactivity: 0**

Label Hazard Warning:

WARNING! HARMFUL IF SWALLOWED.

Label Precautions:

Wash thoroughly after handling.

Avoid contact with eyes, skin and clothing.

Label First Aid:

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

Product Use:

Laboratory Reagent.

Revision Information:

REAGENT ALCOHOL

MSDS Number: AR010 --- *Effective Date: 01/01/01*

1. Product Identification

Synonyms: Doubly denatured ethanol; modified 3A alcohol; alcohol, anhydrous

CAS No.: Not applicable to mixtures.

Molecular Weight: Not applicable to mixtures.

Chemical Formula: Mixture [CH₃CH₂OH, CH₃OH, CH₃CHOHCH₃]

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Ethyl Alcohol	64-17-5	90 - 95%	Yes
Methyl Alcohol	67-56-1	1 - 5%	Yes
Isopropyl Alcohol	67-63-0	1 - 5%	Yes

3. Hazards Identification

Emergency Overview

POISON! DANGER! MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. VAPOR HARMFUL. FLAMMABLE! AFFECTS CENTRAL NERVOUS SYSTEM. MAY CAUSE BLINDNESS. CANNOT BE MADE NONPOISONOUS. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. MAY AFFECT LIVER, BLOOD, REPRODUCTIVE SYSTEM.

VINQUIRY INC. SAFETY DATA Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Poison)

Flammability Rating: 4 - Extreme (Flammable)

Reactivity Rating: 2 - Moderate

Contact Rating: 2 - Moderate

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER

Storage Color Code: Red (Flammable)

Potential Health Effects

Inhalation:

Exposure may cause irritation to the mucous membranes of the upper respiratory tract. Prolonged exposures to high concentrations may cause drowsiness, loss of appetite and inability to concentrate.

Ingestion:

Cause headaches, gastritis, intoxication, blindness and, in acute cases, death.

Skin Contact:

Causes skin irritation, cracking or flaking due to dehydration and defatting action.

Eye Contact:

Can cause eye irritation. Splashes may cause temporary pain and blurred vision.

Chronic Exposure:

Prolonged skin contact causes drying and cracking of skin. May affect the nervous system. May affect liver, blood, reproductive system. Continued ingestion of small amounts could result in blindness.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

Skin Contact:

Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Get medical attention if irritation develops or persists.

Eye Contact:

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

5. Fire Fighting Measures

Fire:

Flash point: 13C (55F) CC

Autoignition temperature: 422C (792F)

Flammable limits in air % by volume:

lfl: 3.3; uel: 19

Flammable liquid and vapor!

Dangerous fire hazard when exposed to heat or flame.

Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Vapors can flow along surfaces to distant ignition source and flash back. Sealed containers may rupture when heated.

Sensitive to static discharge.

Fire Extinguishing Media:

Water spray, dry chemical, alcohol foam, or carbon dioxide. Water may be ineffective.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece 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.

6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

SOLUSORB(R) solvent adsorbent is recommended for spills of this product.

7. Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

- OSHA Permissible Exposure Limit (PEL):

1000 ppm (TWA) for ethyl alcohol

400 ppm (TWA) for isopropyl alcohol

200 ppm (TWA) for methyl alcohol

- ACGIH Threshold Limit Value (TLV):

1000 ppm (TWA) for ethyl alcohol

400 ppm (TWA), 500 ppm (STEL) for isopropyl alcohol

200 ppm (TWA), 250 ppm (STEL) skin, for methyl alcohol

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded, wear a supplied air, full- facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Clear, colorless liquid.

Odor:

Mild pleasant whiskey-like odor.

Solubility:

Miscible in water.

Density:

0.79 @ 20C/4C

pH:

No information found.

% Volatiles by volume @ 21C (70F):

100

Boiling Point:

78C (172F) (ethanol)

Melting Point:

-114C (-173F) (ethanol)

Vapor Density (Air=1):

1.6 (ethanol)

Vapor Pressure (mm Hg):

40 @ 19C (66F) (ethanol)

Evaporation Rate (BuAc=1):

ca. 1.4 (CCl4=1) (ethanol)

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Carbon dioxide and carbon monoxide may form when heated to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Strong oxidants, silver salts, acid chlorides, alkali metals, metal hydrides, hydrazine, and many other substances.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

Toxicological Data:

Ethyl alcohol: oral rat LD50: 7060 mg/kg; inhalation rat LC50: 20,000 ppm/10H; Irritation data, eye, rabbit: 500 mg/24H moderate; Investigated as a tumorigen, mutagen, reproductive effector. Methyl alcohol: oral rat LD50: 5628 mg/kg; inhalation rat LC50: 64000 ppm/4H; skin rabbit LD50: 15800 mg/kg; Irritation data, skin, rabbit: 20 mg/24H, Moderate; Investigated as a tumorigen, mutagen, reproductive effector. Isopropyl alcohol: oral rat LD50: 5045 mg/kg; skin rabbit LD50: 12.8 gm/kg; inhalation, rat: 16,000 ppm 8 hr. Investigated as a mutagen, tumorigen, reproductive effector.

Reproductive Toxicity:

Ethanol has been linked to birth defects in humans.

Carcinogenicity:

Ethanol has been linked to cancer in humans. Chronic ethanol ingestion is associated with liver cancer. Most industrial ethanol contains denaturants that render it undesirable to drink.

-----\Cancer Lists\-----

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Ethyl Alcohol (64-17-5)	No	No	None
Methyl Alcohol (67-56-1)	No	No	None
Isopropyl Alcohol (67-63-0)	No	No	3

12. Ecological Information

Environmental Fate:

Following data for ethanol: When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is expected to quickly evaporate. When released into water, this material is expected to readily biodegrade. When released into water, this material may evaporate to a moderate extent. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to be readily removed from the atmosphere by dry and wet deposition. When released into the air, this material is expected to have a half-life between 1 and 10 days.

Environmental Toxicity:

This material is not expected to be toxic to aquatic life. The LC50/96-hour values for fish are over 100 mg/l.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or

contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: ETHANOL
Hazard Class: 3
UN/NA: UN1170
Packing Group: II
Information reported for product/size: 370LB

International (Water, I.M.O.)

Proper Shipping Name: ETHANOL
Hazard Class: 3.2
UN/NA: UN1170
Packing Group: II
Information reported for product/size: 370LB

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan	Australia
Ethyl Alcohol (64-17-5)	Yes	Yes	Yes	Yes
Methyl Alcohol (67-56-1)	Yes	Yes	Yes	Yes
Isopropyl Alcohol (67-63-0)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient	--Canada--			
	Korea	DSL	NDSL	Phil.
Ethyl Alcohol (64-17-5)	Yes	Yes	No	Yes
Methyl Alcohol (67-56-1)	Yes	Yes	No	Yes
Isopropyl Alcohol (67-63-0)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----

Ingredient	-SARA 302-		-SARA 313-	
	RQ	TPQ	List	Chemical Catg.
Ethyl Alcohol (64-17-5)	No	No	No	No
Methyl Alcohol (67-56-1)	No	No	Yes	No
Isopropyl Alcohol (67-63-0)	No	No	Yes	No

-----\Federal, State & International Regulations - Part 2\-----

Ingredient	-RCRA-		-TSCA-
	CERCLA	261.33	8(d)
Ethyl Alcohol (64-17-5)	No	No	No
Methyl Alcohol (67-56-1)	5000	U154	No
Isopropyl Alcohol (67-63-0)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): Yes CDTA: Yes
SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No
Reactivity: No (Mixture / Liquid)

Australian Hazchem Code: 2[S]E

Poison Schedule: S5

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: **1** Flammability: **3** Reactivity: **0**

Label Hazard Warning:

POISON! DANGER! MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. VAPOR HARMFUL. FLAMMABLE! AFFECTS CENTRAL NERVOUS SYSTEM. MAY CAUSE BLINDNESS. CANNOT BE MADE NONPOISONOUS. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. MAY AFFECT LIVER, BLOOD, REPRODUCTIVE SYSTEM.

Label Precautions:

Keep away from heat, sparks and flame.

Do not breathe vapor.

Avoid contact with eyes, skin and clothing.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

Label First Aid:

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. In all cases call a physician.

Product Use:

Laboratory Reagent.

Revision Information:

No changes.

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