SAFETY DATA SHEET

Preparation Date: 9/8/2015 **Revision Date:** 9/8/2015 **Revision Number:** G1

1. IDENTIFICATION

Product identifier

Product code: A2176
Product Name: ALCOHOL, DENATURED, 190 PROOF

Other means of identification

Synonyms: No information available
CAS #: Mixture
RTECS # KQ6300000 (Ethyl Alcohol)
NT8050000 (Isopropyl Alcohol)
PC1400000 (Methyl Alcohol)
SA9275000(Methyl Isobutyl Ketone)
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier:
Spectrum Chemical Mfg. Corp
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000
Order Online At: https://www.spectrumchemical.com

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Gases)	Category 4
Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 2
Reproductive toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1
Flammable liquids	Category 2

Label elements

Danger

Hazard statements
Harmful if swallowed
Harmful in contact with skin
Harmful if inhaled
Causes serious eye irritation
Suspected of causing cancer
May damage fertility or the unborn child
May cause respiratory irritation. May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
Highly flammable liquid and vapor

Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
May cause blindness if swallowed
Can burn with an invisible flame
Causes mild skin irritation

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/ .? /equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
Specific measures (see .? on this label)
In case of fire: Use CO2, dry chemical, or foam to extinguish.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Call a POISON CENTER or doctor/physician if you feel unwell
Wash contaminated clothing before reuse
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
Ethyl Alcohol 200 proof 64-17-5	64-17-5	79.6	*
Isopropyl Alcohol 67-63-0	67-63-0	8.75	*
Water 7732-18-5	7732-18-5	6.55	*
Methyl Alcohol 67-56-1	67-56-1	4.2	*
Methyl Isobutyl Ketone 108-10-1	108-10-1	0.89	*

4. FIRST AID MEASURES

First aid measures

General Advice: Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention. If skin irritation persists, call a physician.

Eye Contact: Flush eye with water for 15 minutes. Get medical attention.

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

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms Causes eye irritation. Causes skin irritation. May cause irritation of respiratory tract. Inhalation of vapors may cause dizziness or suffocation. Central nervous system effects. May cause cardiovascular effects. May affect the blood. It may affect the brain. May cause metabolic acidosis. Contains Methyl Alcohol. Methanol can be absorbed through the skin producing systemic effects that include visual distrubances. Absorption through the skin may cause metabolic acidosis. Contains Methyl alcohol which can cause metabolic acidosis when ingested or inhaled. Absorption through the skin may cause metabolic acidosis. Contains Methyl Alcohol which can affect the eyes and cause significant visual disturbances including blindness. Methanol can be absorbed through the skin, producing systemic effects that include visual disturbances. May affect the liver.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: This product contains Methyl Alcohol.
For Methyl Alcohol Ingestion:
1. Support vital functions, correct for dehydration and shock, and manage fluid balance.
2. The currently recommended medical management of Methanol poisoning includes the following methods:
a. Emptying the stomach by gastric lavage. It is useful if initiated within < 1 of ingestion.
b. Correct metabolic acidosis with intravenous administration of sodium bicarbonate, adjusting the administration rate according to repeated and frequent measurement of acid/base status.
c. Administer ethanol (orally or by IV (intravenously)) or Fomepizole (4-methylpyrazole or Antizol)) therapy by IV (intravenously)as an antidote to inhibit the formation of toxic metabolites. Adjunct therapy with Leucorvin followed by Folate can also be initialized. Please note that if Ethanol therapy is used, monitor blood glucose, especially in children. Ethanol can cause hypoglycemia.
d. When patients are diagnosed and treated early in the course with the above methods, hemodialysis may be avoided if fomepizole or ethanol therapy is effective, and the metabolic acidosis is corrected, and no renal failure is present. However, once severe acidosis and renal failure occurred, hemodialysis is necessary. Hemodialysis is effective in removing Methyl alcohol and toxic metabolites, and correcting metabolic acidosis.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide (CO2). Dry chemical. Alcohol-resistant foam. Water spray.

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon monoxide; carbon dioxide

Specific hazards:
Flammable
May be ignited by heat, sparks or flames
Material can burn with invisible flame
Vapor may travel considerable distance to source of ignition and flash back
Vapors may form explosive mixtures with air
Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks)
Container explosion may occur under fire conditions or when heated
Fire may produce irritating, corrosive and/or toxic gases

Special Protective Actions for Firefighters

Specific Methods: Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice
Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:
Hygroscopic. Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Sensitive to light. Store in light-resistant containers. Keep away from heat and sources of ignition. Store in a segrated and approved area. Store away from incompatible materials.

Incompatible Materials:
Oxidizing agents. Acids. Alkali Metals. Halogens. Caustics. isocyanates. Metals. Bases. Acid anhydrides. Acid chlorides. Hydrazine. Potassium t-butoxide.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Ethyl Alcohol 200 proof 64-17-5	1000 ppm TWA 1900 mg/m³ TWA	1000 ppm TWA 1900 mg/m³ TWA	1000 ppm STEL	None
Isopropyl Alcohol 67-63-0	400 ppm TWA 980 mg/m³ TWA	400 ppm TWA 980 mg/m³ TWA 500 ppm STEL 1225 mg/m³ STEL	400 ppm STEL 200 ppm TWA	None

Water 7732-18-5	None	None	None	None
Methyl Alcohol 67-56-1	200 ppm TWA 260 mg/m^3 TWA	200 ppm TWA 260 mg/m^3 TWA 250 ppm STEL 325 mg/m^3 STEL	250 ppm STEL 200 ppm TWA	Not determined
Methyl Isobutyl Ketone 108-10-1	100 ppm TWA 410 mg/m^3 TWA	50 ppm TWA 205 mg/m^3 TWA 75 ppm STEL 300 mg/m^3 STEL	75 ppm STEL 20 ppm TWA	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec
Ethyl Alcohol 200 proof 64-17-5	1000 ppm TWA 1880 mg/m^3 TWA	1000 ppm STEL	1000 ppm STEL	1000 ppm TWAEV 1880 mg/m^3 TWAEV
Isopropyl Alcohol 67-63-0	200 ppm TWA 492 mg/m^3 TWA 400 ppm STEL 984 mg/m^3 STEL	200 ppm TWA 400 ppm STEL	200 ppm TWA	400 ppm TWAEV 985 mg/m^3 TWAEV 500 ppm STEV 1230 mg/m^3 STEV
Water 7732-18-5	None	None	None	None
Methyl Alcohol 67-56-1	200 ppm TWA 262 mg/m^3 TWA 250 ppm STEL 328 mg/m^3 STEL	200 ppm TWA 250 ppm STEL	200 ppm TWA	200 ppm TWAEV 262 mg/m^3 TWAEV 250 ppm STEV 328 mg/m^3 STEV
Methyl Isobutyl Ketone 108-10-1	50 ppm TWA 205 mg/m^3 TWA 75 ppm STEL 307 mg/m^3 STEL	20 ppm TWA 75 ppm STEL	20 ppm TWA	50 ppm TWAEV 205 mg/m^3 TWAEV 75 ppm STEV 307 mg/m^3 STEV

Australia and Mexico

Components	Australia	Mexico
Ethyl Alcohol 200 proof 64-17-5	1000 ppm TWA 1880 mg/m^3 TWA	1000 ppm TWA 1900 mg/m^3 TWA
Isopropyl Alcohol 67-63-0	500 ppm STEL 1230 mg/m^{3}STEL 400 ppm TWA 983 mg/m^3 TWA	400 ppm TWA 980 mg/m^3 TWA 500 ppm STEL 1225 mg/m^3 STEL
Water 7732-18-5	None	None
Methyl Alcohol 67-56-1	250 ppm STEL 328 mg/m^{3}STEL 200 ppm TWA 262 mg/m^{3}STEL	200 ppm TWA 260 mg/m^3 TWA 250 ppm STEL 310 mg/m^3 STEL
Methyl Isobutyl Ketone 108-10-1	75 ppm STEL 307 mg/m^3 STEL 50 ppm TWA 205 mg/m^3 TWA	50 ppm TWA 205 mg/m^3 TWA 75 ppm STEL 307 mg/m^3 STEL

Appropriate engineering controls

Engineering measures to reduce exposure: Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles Safety glasses with side-shields

Skin and body protection: Chemical resistant apron. Long sleeved clothing. Gloves.

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:
Liquid.

Appearance:
No information available

Color:
Clear. Colorless.

Odor:
Alcoholic.

Taste
Pungent. Burning.

Molecular/Formula weight:
No information available

Formula:
No information available

Flammability:
No information available

Flash point (°C):
12

Flashpoint (°C/°F):
12-14 °C/53.6-57.2 °F
15.8-18 °C/60.44-64.4 °F

Flash Point Tested according to:
Closed cup
Open cup

Autoignition Temperature (°C/°F):
363-426 °C/685.4-798.8 °F

Lower Explosion Limit (%):
3.3%

Upper Explosion Limit (%):
19%

pH:
No information available

Melting point/range(°C/°F):
-114.1-117.3 °C/-173.38-179.14 °F

Boiling point/range(°C/°F):
78-79 °C/172.4-174.2 °F

Bulk density:
No information available

Decomposition temperature(°C/°F):
No information available

Density (g/cm3):
No information available

Specific gravity:
0.789-0.81 @ 20 °C

Vapor pressure @ 20°C (kPa):
5.7-5.9

Evaporation rate:
No information available

Vapor density:
1.59

VOC content (g/L):
789-810

Odor threshold (ppm):
5-10 (recognition)
84 (tolerance)

Partition coefficient (n-octanol/water):
No information available

Viscosity:
No information available

Miscibility:
Miscible with water
Miscible with Acetone
Miscible with Ether
Miscible with Benzene
Miscible with glacial Acetic Acid
Miscible with many organic solvents

Solubility:
Very soluble in water

10. STABILITY AND REACTIVITY

Reactivity

It can react vigorously, violently or explosively with oxidizers
When Ethanol comes in contact with Platinum or Sodium, it liberates flammable hydrogen gas
It can react vigorously or explosively with acid hydrides or acid chlorides
It reacts with alkali metals to liberate flammable hydrogen gas
It reacts with acetyl bromide to evolve hydrogen bromide
It reacts with ammona + silver nitrate to form silver nitride and silver fulminate
Ethyl alcohol can react with freshly cut/etched/scratched aluminum with the evolution of heat and release of hydrogen gas. The Ethyl alcohol has to be on the aluminum surface as it is being cut/scratched/etched

Chemical stability

Stability: Stable under recommended storage conditions

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials.

Incompatible Materials: Oxidizing agents. Acids. Alkali Metals. Halogens. Caustics. isocyanates. Metals. Bases. Acid anhydrides. Acid chlorides. Hydrazine. Potassium t-butoxide.

Hazardous decomposition products: Carbon monoxide. Carbon dioxide. When heated to decomposition it emits acrid smoke and irritating fumes.

Other Information
Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Ingestion. Skin. Eyes. Inhalation.

Acute Toxicity

Component Information

Ethyl Alcohol 200 proof - 64-17-5

LD50/oral/rat = 7060 mg/kg Oral LD50 Rat
LD50/oral/mouse = 3450 mg/kg Oral LD50 Mouse
LD50/dermal/rat = No information available
LD50/dermal/rabbit = No information available
LC50/inhalation/rat = 124.7 mg/L Inhalation LC50 Rat 4 h
LC50/inhalation/mouse = 39000 mg/$m^3$4 h
Other LD50 or LC50information = >60000 ppm Inhalation LC50 Mouse 1 h
5900 mg/m^3Inhalation LC50 Rat 6 h
20000 ppm Inhalation LC50 Rat 10 h
5560 mg/kg Oral LD50 Guinea Pig
6300 mg/kg Oral LD50 Rabbit

Isopropyl Alcohol - 67-63-0

LD50/oral/rat = 4396 mg/kg Oral LD50 Rat
LD50/oral/mouse = 3600 mg/kg (RTECS)
LD50/dermal/rat = No information available
LD50/dermal/rabbit = 12800 mg/kg Dermal LD50Rabbit
LC50/inhalation/rat = 72.6 mg/l 4 h
16000 ppm Inhalation LC50 Rat 8 h
LC50/inhalation/mouse = 27.2 mg/l 4 h
Other LD50 or LC50information = LD50 oral 6410 mg/kg [Rabbit]

Water - 7732-18-5

LD50/oral/rat = > 90 mL/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rat = No information available
LD50/dermal/rabbit = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No infomation available
Other LD50 or LC50information = No information available

Methyl Alcohol - 67-56-1

LD50/oral/rat = 5628 mg/kg Oral LD50 Rat
LD50/oral/mouse = 5800 mg/kg
LD50/dermal/rat = No information available
LD50/dermal/rabbit = 15800 mg/kg
LC50/inhalation/rat = 83.2 mg/L Inhalation LC50 Rat 4 h
64000 ppm 4 h
22500 ppm Inhalation LC50 Rat
LC50/inhalation/mouse = 41000 ppm 6 h
Other LD50 or LC50information = 14200 mg/kg Oral LD50 Rabbit
7500 mg/kg Oral LD50 Dog
>5000 mg/kg Oral LD50 Pig
7000 mg/kg Oral LD50 Monkey

Methyl Isobutyl Ketone - 108-10-1

LD50/oral/rat = 2080 mg/kg Oral LD50 Rat
LD50/oral/mouse = 1900 mg/kg oral LD50 mouse
LD50/dermal/rat = No information available
LD50/dermal/rabbit = 16 g/kg Dermal LD50Rabbit
LC50/inhalation/rat = 8.2-12.4 mg/L Inhalation LC50 Rat 4 h
100 g/m^3 inhalation LC50 rat (RTECS)
LC50/inhalation/mouse = 23.3 mg/L inhalation LC50 mouse
Other LD50 or LC50information = 1600 mg/kg oral LD50 guinea pig
100 mg/kg oral LD50 wild bird (redwinged blackbird)

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available

VALUE - Dust/Mist = No information available
Symptoms

Skin Contact:	Irritating to skin. Contains Methyl Alcohol. Methanol can be absorbed through the skin, producing systemic effects that include visual disturbances. Absorption through the skin may cause metabolic acidosis.
Eye Contact:	Causes eye irritation.

Inhalation Irritating to respiratory system
Ingestion No information available

Aspiration hazard No information available

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

Chronic Toxicity Prolonged or repeated skin contact may cause dermatitis, and dryness and cracking of the skin.. Prolonged or repeated exposure by inhalation or ingestion will have effects similar to those of acute inhalation or ingestion. Prolonged or repeated ingestion may affect behavior/central nervous system. Prolonged or repeated ingestion may affect the brain. Prolonged or repeated ingestion may affect metabolism (cause anorexia, weight loss). Prolonged or repeated ingestion may affect the liver (fatty liver degeneration, cirrhosis of the liver. Prolonged or repeated ingestion may affect the cardiovascular system. Prolonged or repeated ingestion may affect the kidneys. Prolonged or repeated ingestion may affect the blood (changes in serum composition). Prolonged or repeated inhalation may affect the brain. Prolonged or repeated inhalation may affect the blood (changes in serum composition, pigmentated or nucleated red blood cells). Prolonged or repeated inhalation may affect the spleen. Prolonged or repeated inhalation may affect the adrenal gland. Prolonged or repeated inhalation may affect the thymus gland.

Sensitization: No information available

Mutagenic Effects: May affect genetic material
Experiments with bacteria and/or yeast have shown mutagenic effects

Carcinogenic effects: May cause cancer based on animal test data.

Components	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Ethyl Alcohol 200 proof	Group 1 - Monograph 100E [2012] in alcoholic beverages Monograph 96 [2010] in alcoholic beverages	A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans	Not listed	Present	Not listed	Not listed
Isopropyl Alcohol	Group 3 - Monograph 71 [1999] Supplement 7 [1987] Monograph 15 [1977]	A4 Not Classifiable as a Human Carcinogen	Not listed	Not listed	Not listed	Not listed
Water	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Methyl Alcohol	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Methyl Isobutyl Ketone	Monograph 101 [2012]	A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans	Not listed	Present	Not listed	Not listed

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: Causes birth defects (teratogenic effects)

Specific Target Organ Toxicity

STOT - single exposure No information available
STOT - repeated exposure No information available
Target Organs: Skin. Liver. Kidneys. Central nervous system. Nervous system. Heart. Eyes/vision. Optic nerve.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Ethyl Alcohol 200 proof - 64-17-5

Freshwater Fish Species Data: 12.0 - 16.0 mL/L LC50 Oncorhynchus mykiss 96 h static 1
13400 - 15100 mg/L LC50 Pimephales promelas 96 h flow-through 1
100 mg/L LC50 Pimephales promelas 96 h static 1

Water Flea Data: 9268 - 14221 mg/L LC50 Daphnia magna 48 h
10800 mg/L EC50 Daphnia magna 24 h
2 mg/L EC50 Daphnia magna 48 h

Isopropyl Alcohol - 67-63-0

Freshwater Algae Data: 1000 mg/L EC50 Desmodesmus subspicatus 72 h
1000 mg/L EC50 Desmodesmus subspicatus 96 h

Freshwater Fish Species Data: 11130 mg/L LC50 Pimephales promelas 96 h static 1
9640 mg/L LC50 Pimephales promelas 96 h flow-through 1
1400000 µg/L LC50 Lepomis macrochirus 96 h 1

Water Flea Data: 13299 mg/L EC50 Daphnia magna 48 h

Methyl Alcohol - 67-56-1

Freshwater Fish Species Data: 13500 - 17600 mg/L LC50 Lepomis macrochirus 96 h flow-through 1
18 - 20 mL/L LC50 Oncorhynchus mykiss 96 h static 1
19500 - 20700 mg/L LC50 Oncorhynchus mykiss 96 h flow-through 1
28200 mg/L LC50 Pimephales promelas 96 h flow-through 1
100 mg/L LC50 Pimephales promelas 96 h static 1

Methyl Isobutyl Ketone - 108-10-1

Freshwater Algae Data: 400 mg/L EC50 Pseudokirchneriella subcapitata 96 h
400 mg/L EC50 Selenastrum capricornutum 96h
980-2000 mg/L EC50 Desmodesmus subspicatus 48h

Freshwater Fish Species Data: 496 - 514 mg/L LC50 Pimephales promelas 96 h flow-through 1
450 mg/L LC50 Carassius auratus 96h static
672 mg/L LC50 Leuciscus idus melanotus 48h
>179 mg/L LC50 Danio rerio 96h

Water Flea Data: 170 mg/L EC50 Daphnia magna 48 h
4280 mg/L LC50 Daphnia magna 24h
1230 mg/L LC50 Artemia salina 24h

Microtox Data	79.6 mg/L EC50 Phytobacterium phosphoreum 5m

Persistence and degradability: No information available

Bioaccumulative potential: No information available

Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ethyl Alcohol 200 proof	None	None	None	None
Isopropyl Alcohol	None	None	None	None
Water	None	None	None	None
Methyl Alcohol	None	None	None	U154 Ignitable waste
Methyl Isobutyl Ketone	None	None	None	U161 Ignitable waste

14. TRANSPORT INFORMATION

DOT

UN-No: UN1987
Proper Shipping Name: Alcohols, n.o.s. (denatured ethanol)
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: None
ERG No: 127
Marine Pollutant No data available
DOT RQ (lbs): No information available

TDG (Canada)

UN-No: UN1987
Proper Shipping Name: Alcohols, n.o.s.
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
Description: No information available

ADR

UN-No: UN1987
Proper Shipping Name: Alcohols, n.o.s.
Hazard Class: 3
Packing Group: II
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: UN1987
Proper Shipping Name: Alcohols, n.o.s.
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
Description: No information available

14. TRANSPORT INFORMATION

IMDG Page: No information available
Marine Pollutant No information available
EMS: F-E
MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: UN1987
Proper Shipping Name: Alcohols, n.o.s.
Hazard Class: 3
Subsidiary Risk: 3
Packing Group: II
Classification Code: No information available
Description: No information available

ICAO

UN-No: UN1987
Proper Shipping Name: Alcohols, n.o.s.
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
Description: No information available

IATA

UN-No: UN1987
Proper Shipping Name: Alcohols, n.o.s.
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
ERG Code: 3L
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Ethyl Alcohol 200 proof	Present	KE-13217	Present	(2)-202	Present	Present	Present 200-578-6
Isopropyl Alcohol	Present	Present KE-29363	Present	Present (2)-207	Present	Present	Present 200-661-7
Water	Present	Present KE-35400	Present	Not present	Present	Present	Present 231-791-2
Methyl Alcohol	Present	Present KE-23193	Present	Present (2)-201	Present	Present	Present 200-659-6
Methyl Isobutyl Ketone	Present	Present KE-24725	Present	Present (2)-542	Present	Present	Present 203-550-1

U.S. Regulations

Ethyl Alcohol 200 proof

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 0844
Pennsylvania RTK: Present
Minnesota - Hazardous Substance List: Present
Louisana Reportable Quantity List for Pollutants: Present (listed as Volatile Organic Compounds)
California Directors List of Hazardous Substances: Present
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1293

Ethyl Alcohol 200 proof

FDA - 21 CFR - Total Food Additives 169.175 169.176 169.177 169.181 172.340 172.560 172.580 175.105 176.180 176.200 177.1200 177.1650 178.1010 184.1293 73.30 73.345 73.615

Isopropyl Alcohol

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 1076
New Jersey (EHS) List: 1076 500 lb TPQ
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Minnesota - Hazardous Substance List: Present
California Directors List of Hazardous Substances: Present

FDA - Direct Food Additives 21 CFR 172.515 21 CFR 173.240 21 CFR 173.340

FDA - 21 CFR - Total Food Additives 172.385 172.515 172.560 172.665 172.695 173.240 173.340 175.105 176.180 176.200 176.210 177.1200 177.2800 178.1010 178.3910 73.1 73.1001 73.30 73.315 73.345 73.615

Methyl Alcohol

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 1222
New Jersey (EHS) List: 1222 500 lb TPQ
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
5000 lb RQ
1 lb RQ
Louisana Reportable Quantity List for Pollutants: 5000lbfinal RQ
2270kgfinal RQ
California Directors List of Hazardous Substances: Present

FDA - Direct Food Additives 21 CFR 173.250
21 CFR 172.869

FDA - 21 CFR - Total Food Additives 172.560 172.859 172.867 173.250 173.385 175.105 175.300 176.180 176.200 176.210 177.1200 177.2420 177.2460 177.2800 73.345 73.615

Methyl Isobutyl Ketone

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 1268
New Jersey (EHS) List: 1268 500 lb TPQ
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
5000 lb RQ
1 lb RQ
Louisana Reportable Quantity List for Pollutants: 1000lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into the atmosphere
5000lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into or onto all media within any consecutive 24-hour period
5000lbfinal RQAs listed in 40 CFR 302.4 Table 302.4
2270kgfinal RQAs listed in 40 CFR 302.4 Table 302.4
California Directors List of Hazardous Substances: Present

FDA - Direct Food Additives 21 CFR 172.515

FDA - 21 CFR - Total Food Additives 172.515 172.842 175.105 176.180 176.200 176.210 177.1650

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:
WARNING: This product contains a chemical known to the State of California to cause cancer. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Ethyl Alcohol 200 proof	carcinogen (listed as Ethanol in alcoholic beverages)	developmental toxicity (Ethyl alcohol in alcoholic beverages)	Not Listed	Not Listed

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Isopropyl Alcohol	Not Listed	Not Listed	Not Listed	Not Listed
Water	Not Listed	Not Listed	Not Listed	Not Listed
Methyl Alcohol	Not Listed	developmental	Not Listed	Not Listed
Methyl Isobutyl Ketone	carcinogen	developmental toxicity	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting *de minimis*
Ethyl Alcohol 200 proof	None	None	None	None	None
Isopropyl Alcohol	None	None	None	None	1.0 % de minimis concentration
Water	None	None	None	None	None
Methyl Alcohol	5000 lb final RQ 2270 kg final RQ	None	None	None	1.0 % de minimis concentration
Methyl Isobutyl Ketone	5000 lb final RQ 2270 kg final RQ	None	None	None	1.0 % de minimis concentration

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Ethyl Alcohol 200 proof	Not Applicable	Not Applicable
Isopropyl Alcohol	Not Applicable	12/15/1986 12/15/1996
Water	Not Applicable	Not Applicable
Methyl Alcohol	Not Applicable	Not Applicable
Methyl Isobutyl Ketone	Not Applicable	10/04/1982 10/04/1992

Canada

WHMIS hazard class:
B2 Flammable liquid
D2B Toxic materials
D1B Toxic materials
D2A Very toxic materials

Ethyl Alcohol 200 proof
B2 D2B
Isopropyl Alcohol
B2 D2B including 70%
Water
Uncontrolled product according to WHMIS classification criteria
Methyl Alcohol
B2 D1B D2A D2B including 28%
Methyl Isobutyl Ketone
B2 D2A

Canada Controlled Products Regulation:
This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Ethyl Alcohol 200 proof	0.1 %
Isopropyl Alcohol	1 %
Methyl Alcohol	1 %
Methyl Isobutyl Ketone	1 %

Inventory

Components	Canada (DSL)	Canada (NDSL)
Ethyl Alcohol 200 proof	Present	Not Listed
Isopropyl Alcohol	Present	Not Listed
Water	Present	Not Listed
Methyl Alcohol	Present	Not Listed
Methyl Isobutyl Ketone	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Manditory Reporting
Ethyl Alcohol 200 proof	Not listed	Not listed
Isopropyl Alcohol	Not listed	Not listed
Water	Not listed	Not listed
Methyl Alcohol	Not listed	Not listed
Methyl Isobutyl Ketone	Present	Not listed

EU Classification

R-phrase(s)
R11 - Highly flammable.
R68/20/21/22 - Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

S -phrase(s)
S 7 - Keep container tightly closed.
S16 - Keep away from sources of ignition - No smoking.

Components	Classification	Concentration Limits:	Safety Phrases
Ethyl Alcohol 200 proof	F; R11	No information	S7 S16
Isopropyl Alcohol	F; R11 Xi; R36 R67	No information	S2 S7 S16 S24/25 S26
Water		No information	
Methyl Alcohol	C>=20% F; R11 T; R23/24/25-39/23/24/25 C>=3%<20% Xn; R20/21/22 C>=3%<10% Xn; R68/20/21/22	20%<=C: T; R:23/24/25 3%<=C<20%: Xn; R:20/21/22 10%<=C: T; R:39/23/24/25 3%<=C<10%: Xn; R:68/20/21/22	S1/2 S7 S16 S36/37 S45
Methyl Isobutyl Ketone	F; R11 Xn; R20 Xi; R36/37 R66	No information	S2 S9 S16 S29

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:
F - Highly flammable.
Xn - Harmful.

16. OTHER INFORMATION

C:\Program Files\Wercs50\graphics\HMIS\230.jpg

Preparation Date: 9/8/2015
Revision Date: 9/8/2015
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet